

## Duquesne University Duquesne Scholarship Collection

---

Electronic Theses and Dissertations

---

Summer 2008

# Entrepreneurial Organizational Characteristics in Hawaiian Elementary Schools: Its Relationship to School Characteristics and Student Achievement

J. Patrick Byrne

Follow this and additional works at: <https://dsc.duq.edu/etd>

---

### Recommended Citation

Byrne, J. (2008). Entrepreneurial Organizational Characteristics in Hawaiian Elementary Schools: Its Relationship to School Characteristics and Student Achievement (Doctoral dissertation, Duquesne University). Retrieved from <https://dsc.duq.edu/etd/373>

This Immediate Access is brought to you for free and open access by Duquesne Scholarship Collection. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Duquesne Scholarship Collection. For more information, please contact [phillipsg@duq.edu](mailto:phillipsg@duq.edu).

ENTREPRENEURIAL ORGANIZATIONAL CHARACTERISTICS IN HAWAIIAN  
ELEMENTARY SCHOOLS: ITS RELATIONSHIP TO SCHOOL  
CHARACTERISTICS AND STUDENT ACHIEVEMENT

A Dissertation Submitted to the School of Education

Duquesne University

In partial fulfillment of the requirements for the degree of Doctor of Education

By

J. Patrick Byrne

June 2008

© Copyright by

J. Patrick Byrne

2008

**DUQUESNE UNIVERSITY**  
**SCHOOL OF EDUCATION**  
**INTERDISCIPLINARY DOCTORAL PROGRAM FOR EDUCATIONAL**  
**LEADERS**

***Dissertation***

Submitted in Partial Fulfillment of the Requirements  
For the Degree of Doctor of Education (Ed.D.)

***Presented by:***

J. Patrick Byrne  
B.A., Psychology, Loyola College, 1990  
B.A., Elementary Education, Pennsylvania State University, 1996  
M.A., Teaching and Curriculum, Pennsylvania State University, 2001

June 17, 2008

ENTREPRENEURIAL ORGANIZATIONAL CHARACTERISTICS IN HAWAIIAN  
ELEMENTARY SCHOOLS: ITS RELATIONSHIP TO SCHOOL CHARACTERISTICS AND  
STUDENT ACHIEVEMENT

***Approval***

\_\_\_\_\_, Chair  
James E. Henderson, Ed.D.  
Professor of Educational Leadership and  
Director, Interdisciplinary Doctoral Program for Educational Leaders  
Duquesne University School of Education

\_\_\_\_\_, Member  
Gibbs Y. Kanyongo, Ph.D.  
Assistant Professor, Department of Foundations & Leadership  
Duquesne University

\_\_\_\_\_, Member  
Phillip Diller, Ed.D.  
Director, Ed. Leadership Faculty  
Shippensburg University

***Program Director***  
James E. Henderson, Ed.D.  
Professor of Educational Leadership and  
Director, Interdisciplinary Doctoral Program for Educational Leaders  
Duquesne University School of Education

# ABSTRACT

## ENTREPRENEURIAL ORGANIZATIONAL CHARACTERISTICS IN HAWAIIAN ELEMENTARY SCHOOLS: ITS RELATIONSHIP TO SCHOOL CHARACTERISTICS AND STUDENT ACHIEVEMENT

By

J. Patrick Byrne

June 2008

Dissertation Supervised by Professor, James E. Henderson, Ed.D.

To determine the level of entrepreneurial organizational characteristics in Hawaiian public elementary schools, 3,816 teachers in 111 schools were surveyed using the Public School Entrepreneurial Inventory (PSEI). This survey was developed and used previously in Israel. This was the first application of the PSEI in the United States. Two domains of entrepreneurial organizational characteristics were measured: principal proactiveness and school innovativeness. Based on the levels of entrepreneurial characteristics, schools were grouped into four entrepreneurial profiles. A chi square goodness of fit was used to determine the variation in entrepreneurial profiles between the regions of Israel and Hawaii. Based on the chi square examination and a preponderance of conservative entrepreneurial profiles from Hawaii schools, a modified range of entrepreneurial profiles was created. The resulting Hawaii adjusted

entrepreneurial profile and PSEI mean scores were then used to examine relationships among school characteristics and entrepreneurial organizational levels.

The sample schools' student achievement data based on the Hawaii State Assessments (H.S.A.) was compared to the Hawaii adjusted entrepreneurial profile and PSEI mean scores. Other school level characteristics were examined for potential relationships with a schools' Hawaii adjusted entrepreneurial profile and PSEI mean scores. These characteristics included years of principal experience, size of school, geographic location, and socio economic level. A significant relationship was found between the Hawaii adjusted entrepreneurial profile and principal's years of experience. A second significant relationship unrelated to a schools' entrepreneurial level was found between a school's socioeconomic level and overall H.S.A. achievement results. Other relationships were explored using the Hawaii adjusted entrepreneurial profile and PSEI mean scores but were found to be non-significant.

Findings indicated a lack of variation among Hawaii schools' entrepreneurial characteristics, especially representation in higher levels of entrepreneurial characteristics; that is, higher levels of principal proactiveness and school innovativeness. This lack of variation limited statistical findings about relationships among school characteristics and entrepreneurial levels. Reasons behind the lack of variation are explored and include a rigid leadership development program and a traditional bureaucratic system that limits principal proactiveness and school innovativeness.

## DEDICATION

To Brennen and Kevin – my beautiful Byrne Boys – I dedicate this work to you.

May the road rise up to meet you,

May the wind be at your back,

May good friends be there to greet you

And your table never lack.

May your life be filled with laughter,

and your heart be filled with song.

May God shine His light upon you,

As you live your whole life long.

## ACKNOWLEDGEMENTS

The author sincerely thanks the members of the dissertation committee: James Henderson, Phil Diller, and Gibbs Kanyongo, for their wisdom, patience, and guidance throughout this journey. Their willingness to support and nurture a study that combines two seemingly divergent topics is a testament to their propensity for breaking new ground and exploring new ideas. Thanks for your confidence.

To my fellow educators from the beautiful state of Hawaii, Mahalo for making my family feel a part of the collective educational Ohana. Your gracious acceptance and support of this study is very much appreciated. Thanks for the Aloha spirit.

Thanks to members of my cohort from Duquesne for their support and strength; an incredible group that raised my level of scholarly pursuit in many ways.

To my family and friends, thanks for giving me the freedom of time to become absorbed in writing and research. Your endless encouragement was vital to the successful completion of this work. Special thanks to Oma for helping get the surveys together.

To my wife Kris, words can not capture my love and respect for you. You are such an integral part of my life and world that without you, none of this could have been accomplished. Thanks for believing in me and loving me without question or constraint. Our world is one of discovery and wonderment, I am so lucky to have a fellow adventurer as beautiful, intelligent, and courageous as you.



## TABLE OF CONTENTS

	Page
ABSTRACT.....	iii
DEDICATION.....	vi
ACKNOWLEDGEMENTS.....	vii
LIST OF FIGURES.....	ix
INTRODUCTION.....	1
<i>Why an Entrepreneurial Approach in Education?</i> .....	4
<i>How Do Changing World Markets Support Entrepreneurship?</i> .....	5
<i>Can Schools Be Entrepreneurial?</i> .....	10
<i>What Makes This Study Important?</i> .....	12
<i>Research Questions</i> .....	14
<i>Definition of Terms</i> .....	14
REVIEW OF LITERATURE.....	16
<i>Section One -How Has the Discourse About Entrepreneurial Organizational Characteristics Evolved?</i> .....	17
<i>Section Two - What Are Indicators of School Success in Elementary Schools?</i> .....	24
<i>Section Three - How Are Entrepreneurial Characteristics Measured?</i> .....	29
<i>Section Four - How Do the Entrepreneurial Characteristics Influence an Organization's Success?</i> .....	31
<i>Section Five - How Do Entrepreneurial Characteristics Influence a School?</i> .....	39
METHOD.....	45
<i>Participants</i> .....	47
<i>Instrument</i> .....	50
<i>Materials</i> .....	54
<i>Procedure</i> .....	54
<i>Analysis</i> .....	55
RESULTS.....	57
DISCUSSION.....	68
<i>Major Findings</i> .....	68
<i>General Implications of Findings</i> .....	71
<i>General Limitations</i> .....	72
<i>Future Directions</i> .....	73
<i>Summary</i> .....	74
REFERENCES.....	75
APPENDIX.....	84
PSEI SURVEY.....	84
CONSENT TO PARTICIPATE.....	86
DISTRIBUTION OF THE PSEI.....	88
IRB APPROVAL LETTER.....	89
SUPERINTEDENT APPROVAL LETTER.....	90

## LIST OF FIGURES

	Page
Table 1 ..... Number and Percentage of Elementary Schools by Island	49
Table 2 ..... Determining the Entrepreneurial Characteristics Profile of a School	52
Table 3 ..... Number of Sample and Total Population Schools by Island	58
Table 4 ..... Crosstabulation: Hawaii or Israel and Entrepreneurial Profile	59
Figure 1 ..... Hawaii Adjusted PSEI Mean Scores	60
Table 5 ..... Crosstabulation: Hawaii or Israel and Hawaii Adjusted Entrepreneurial Profile	61
Figure 2 ..... Hawaii Adjusted Entrepreneurial Profiles	61
Figure 3 ..... Means of H.S.A. Scores by Hawaii Adjusted Entrepreneurial Profile	62
Table 6 ..... Bi-variant Correlations	64
Figure 4 ..... Mean of Principal Years by Hawaii Adjusted Entrepreneurial Profile	65
Figure 5 ..... Mean overall H.S.A. Scores by Socioeconomic Level	66
Figure 6 ..... PSEI Mean by Socioeconomic Level	67

## CHAPTER 1

### INTRODUCTION

Studies about the effects of entrepreneurial characteristics among business leaders and business organizations are readily available, however inquiries into the effect of these same characteristics in public sector organizations are only beginning to emerge (Berhlund & Holmgren, 2006; Morris, et al. 2007). The emergence of these studies coincides with increased competition for financial resources, a lack of adequate sponsorship, and a limited talent pool among non-profit, public service organizations like schools (Morris, et al. 2007). Increased budgetary pressures are squeezing the public purse, limiting school funding and challenging schools to do more with less. Fast paced economic market changes are forcing schools to examine their relevance to a dynamic and changing workplace. Funding pressures, scarce resources, and market changes culminate into a need for schools to perhaps examine historical models that have met and overcome similar pressures and challenges.

Because entrepreneurial organizations have survived and thrived throughout history (Schumpeter, 1934; Morrison, 2001), they may serve as a model for schools to examine and possibly emulate. As Morrison (2001) notes, "It is proposed that entrepreneurs are 'travelers through time'. Times may change, but the motivation, emotion, drive, purpose, and 'mania' of entrepreneurs remain constant" (p. 789). Often the fruits of these entrepreneurial characteristics helped to reinvigorate and change existing paradigms among organizations or whole industries. As Kuratko (2007) notes, "...entrepreneurship...is an integral part of the renewal process" (p. 3). Additional research (Wiklund & Shepherd, 2005) has suggested that a profit seeking organization's

entrepreneurial orientation has direct performance implications, especially in turbulent environments. Environments filled with accountability pressures and forces for change, much like what schools now face in this first decade since the No Child Left Behind legislation has been enacted (Fullan, 2005). Using entrepreneurial organizational research from the business sector as a guide for school improvement efforts may no longer be antithetical since schools are mired in environments that have historically spawned entrepreneurial solutions.

To ascertain whether a schools' level of entrepreneurial organizational characteristics does impact performance during tumultuous times, this research project is designed to first determine the level of entrepreneurial organizational characteristics in individual public elementary schools in Hawaii. Once the extent of entrepreneurial characteristics is defined for each school, an examination of performance using the Hawaii State Assessment and an examination of other school characteristics will be conducted. These examinations will be used to determine if a relationship exist between a school's entrepreneurial organizational characteristics and other pertinent characteristics. Since the study of entrepreneurial characteristics among public schools is in the nascent stages, a precursor to examining individual school's performance and characteristics will be an examination of the effectiveness of the actual measure of entrepreneurial characteristics between schools previously measured in Israel and schools in Hawaii.

To provide clarity to the reader, a definition of entrepreneurial organizational characteristics may be helpful. The definition will be explored more fully and presented as the study's independent variable in chapter two, however because the common discourse concerning entrepreneurship has been firmly rooted in individuals rather than

organizations a definition is offered (Nicholson & Anderson, 2005). The following four characteristics emerged as common themes from research among organizations that are characterized as entrepreneurial:

Entrepreneurial organizations:

1. Can manage and tolerate the risk associated with change because of the organizations ability to compare a risk to the benefits that risk produces (Bilen, Kisenwether, Rzasz, & Wise, 2005; Nunn, 2004; Gendron, 2004; Tucker, 1988)
2. Are innovative, creative, focus on teambuilding, and emphasize leadership (Eyal & Kark, 2004; Gendron, 2004; O’Gorman, 1999; Haberman & Dill, 1999; Morrison, 2000; Tucker, 1988)
3. Have a global understanding about the importance of experiencing autonomy, freedom, and independence (Coulson, 2003; Gendron, 2004; Haberman & Dill, 1999; Morrison, 2001; Nunn, 2000; Xu & Ruef, 2004)
4. Are atypically motivated to meet challenges that elicit fulfillment and organizational satisfaction (Eyal & Kark, 2004; Gendron, 2004; Haberman & Dill, 1999; Stokes, 2002; Tucker, 1988).

These four themes are embedded in a similar effort by Kuratko and Hodgetts (2007) to create an integrated definition:

Entrepreneurship is a dynamic process of vision, change, and creation. It requires an application of energy and passion towards the creation and implementation of new ideas and creative solutions. Essential ingredients include the willingness to take calculated risks – in terms of time, equity, and career; the ability to formulate an effective venture team; the creative skill to marshal the needed resources; the

fundamental skill of building a solid business plan; and finally, the vision to see opportunity where others see chaos, contradiction, and confusion. (p.3)

Again, the goal of these definitions is to clarify how entrepreneurship is related to an organization rather than an individual.

#### *Why an Entrepreneurial Approach in Education?*

Since Schumpeter's (1934) seminal work on organizational entrepreneurship, a prevailing connection between entrepreneurship and the industrial, business realms has been a prevalent conjecture. Schumpeter defines organizational entrepreneurship as "...the organization's ability to use resources in a novel way, leading to the creation of new products and services in the organizational environment" (Eyal & Inbar, 2003, p. 222). While the notion of entrepreneurship is ingrained within the business sector; more voices from academic arenas are increasingly calling for the application and examination of entrepreneurial characteristics in other types of organizations.

Researchers and theorists (Berglund & Holmgren, 2006; Eyal & Inbar, 2003; Fullan, 2005; Ouchi, 2003; Carter, 2001; Stokes, 2002) are calling for a paradigm shift that establishes a need for entrepreneurial organizations to be considered vital in the public sector, including educational organizations. This perspective change needs a foundation not solely rooted in the idea of entrepreneurship as a business creation but as an approach for how things are done (Berglund & Holmgren, 2006). A report from the European Commission (2002) describes an entrepreneurial approach as one where people embody a spirit of initiative, independence, and personal creativity to each working activity, whether the activity is the learning of new material or the development of a new product or service.

The reason that educational organizations should be at the forefront of developing an entrepreneurial approach is succinctly described by England and Holmgren (2006). The two researchers describe the intersection of entrepreneurship among industrial, public, private, and academic spheres. The basic progression starts with families interacting with public schools through their children. The children become students who will hopefully end up employed in the private or industrial sector. These various societal intersections are then scrutinized and studied by academics. Schools serve as the hub of a wheel, connecting various parts of society together and often setting the pace, performance, and philosophy of the joined wheel components. If future marketplace and workplace needs demand an entrepreneurial approach or spirit, schools will be an important part of eliciting such a change because of their central role in developing societal norms and expectations.

#### *How Do Changing World Markets Support Entrepreneurship?*

Globalization is defined as the development of an increasingly integrated global economy marked especially by free trade, free flow of capital, and the tapping of cheaper foreign labor markets (Merriam-Webster, 2008). The rapid pace of globalization over the last several decades has dramatically changed the world. As Thomas Friedman (2004) postulates in his book *The World is Flat*, global markets are becoming level playing fields and worldwide competition for opportunities is becoming more rigorous. Workers with necessary skills are being utilized from areas that had historically faced geographical barriers to economic growth.

Those geographical barriers have been circumvented by technological advances. High speed information exchanges like e-mail and virtual conferencing make fast-paced

worldwide collaboration feasible. An example Friedman (2004) describes is how software programmers in India link to product manufactures from China. The Indian programmers correspond about product design with workers in the United States. The new products are manufactured in China and sold worldwide. Friedman also describes how programmers in India created a secure system that allows accountants in India to electronically complete United States citizen's tax returns. These two examples of collaborative, barrier less globalization show that organizations are changing. Fresh new skills are demanded so that organizations and the people who work in those organizations can keep pace with the dynamic, integrated global economy.

What those fresh skills look like is further defined by educational essayists Adler and Holt. While they wrote two separate essays, they found agreement that a more general, humanistic education would aid the needs of future workers; future workers who must maintain a malleable skill base and avoid what Alder calls the "barbarism of specialization" (Noll 2004, p. 24). Business leaders repeatedly express their desire for workers who are enveloped with the ability and willingness to learn, grow, and change. Educational author Francine Fowler's (2004) statistics on increased numbers of career changes an individual experiences during their working life supports the need for workers who can learn and adapt. A change to a more resilient education may help future workers and may be provided by combining Adler's (1982) liberal arts focus and Holt's (1974) emphasis on liberated, autonomous learners. As Ray Kroc, founder of McDonald's, once put it, "When you're green, you grow. When you're ripe, you rot" (Thornburg, 2002, p.42). Skills associated with liberal, autonomous, lifelong learning keeps the individual and the overall economy green and growing.



Researchers (Nunn & Ehlen, 2000; Eyal & Kark, 2004; Peck, 1991; Gendron, 2004) have claimed entrepreneurship and entrepreneurial skills are some of the most necessary skills for organizations, workers, and the economy to grow and remain green. They based the importance of these skills on the prediction that future economic growth will occur primarily among small business enterprises. Gendron (2004) more specifically identified needed future skills based on interviews with six prominent business entrepreneurs: Steve Case, Matt Goldman, Tom Golisano, Geraldine Laybourne, Jeff Taylor, and Alan Webber. The skills identified included: teambuilding, experiential learning, emotional understanding, self motivation, listening, selling/marketing, creative design, managing complexity, risk tolerance, and global understanding.

These future skills align with definitions of entrepreneurial skills developed by other researchers (Morrison, 2001; Peck, 1991; Tucker, 1988). Peck (1991) and Morrison (2001) both emphasize entrepreneurial leaders who are skilled in sharing powerful visions of what the future may hold. Peck (1991) specifically calls for entrepreneurial skills among leaders in education, so the educational system can move beyond maintaining the existing and move toward dramatic changes and future needs. As he notes, in most schools “everyone has a brake pedal, but nobody has a gas pedal” (Peck, 1991, p. 516). However tempting rapid change is - a leader with a lead foot may be problematic. A pragmatic and measured approach to change is a skill that may not often be attributed to entrepreneurial leadership. Tucker’s (1988) analysis of over 1,200 workers in both government and business sectors found a counterintuitive finding about entrepreneurial leadership skills. He found that entrepreneurial workers and leaders are

not exceptional risk takers. They are atypically motivated but are pragmatic and tend to avoid risky circumstances.

Entrepreneurial skills are important enough to future economic success that researchers Nunn and Ehlen (2000) argued that university business schools in the United States should adapt to deliver curriculum and instructional methods that cultivate entrepreneurial leaders. Nunn and Ehlen (2000) further speculated that university trained entrepreneurial leaders would then propagate a culture of entrepreneurship among their employees and create the type of dynamic, creative, nimble organizations that are able to compete globally.

If the need exists for universities in the United States to prepare students for entrepreneurial organizations, then perhaps it would be beneficial for schools at the secondary or even elementary level to develop entrepreneurial skills among students. A European Commission Report (2002) outlines a potential connection between elementary and secondary school entrepreneurial curriculum. The report recommends that primary schools develop entrepreneurial attitudes such as creativity, spirit of initiative, and independence so that future schooling can focus more precisely on enterprise building.

While European commissions look for a route to innovate change among its schools, the United States still maintains a level of hesitancy towards systemic educational change. An implied theme throughout Fowler's (2004) book, whether she is describing economics, political culture, or values, is that the United States educational system changes slowly. Fullan (2003) notes that implementation of top down dictates and improvement sustainability are challenges for our current educational system. Our educational system is like a huge vessel on an ocean. The ocean, with its wind and

currents, is our societal climate and culture. An organization like Amazon or Google can hoist the most modern and efficient sails to catch the climatic changes of our collective culture because they are organizations that strive for innovation and creativity.

A question is whether the United States' educational system can adjust its sails and harness the power of entrepreneurial characteristics to meet the needs of the changing world markets. Fowler (2004) describes demographic changes that will yield a population with a smaller percentage of members in schools. She also provided employment data that indicates the elasticity of skills needed for the modern American worker to stay employed. Friedman (2004) writes of increased competition and the need for workers with a resilient skill base. If resilient, dynamic skills are needed by future workers then all levels of schooling may have to hoist their sails and enhance the pace of systemic change.

The United States' school systems can look to the example of the European Union and discern new change directions. To better capture the winds of change and influence overall economic growth, a European Commission (2004) report calls for member states to "...integrate entrepreneurial education into all schools' curricula" (p. 8). The European Commission suggest that to more efficiently harness the winds of change, schools will need to focus on the fundamental characteristics of entrepreneurial organizations to mirror and teach skills needed for future success. If a future direction for education depends on developing entrepreneurial characteristics then determining current levels of entrepreneurial characteristics and their resulting influence in schools becomes essential information for determining educational system's current coordinates and setting the future course for systemic educational change.

### *Can Schools Be Entrepreneurial?*

Without convincing evidence, school leaders would wisely resist changing their leadership and organizational style to an entrepreneurial model. Evidence from schools is emerging. Chapman (2004) found evidence of an entrepreneurial model by examining common patterns of organizational characteristics that emerged in urban and “challenging context” (p. 95) schools in the United Kingdom. These schools had been forced into rapid change because of poor student performance. The patterns Chapman found can be categorized based on whether the school is ineffective, moderately effective, or effective. United Kingdom schools that are considered schools facing challenging circumstances, or SfCC, formed the sample of each of the three studies Chapman analyzed. Chapman’s meta-analysis indicated that clear organizational patterns emerged based on four central themes: dispersing leadership, relationships with external agents, importance of social capital, and importance of context (p. 97). All four themes stemmed from Chapman’s overall hypothesis that “...a common process that effective leaders follow...are devolution of autonomy and the sequential development of meaningful interpersonal relationships” (p. 95). To clarify, the devolution of autonomy means the decentralization of autonomy. This type of autonomy is similar to what is found in entrepreneurial organizations (Stokes, 2002).

Educational futurist Michael Fullan predicted in his 2004 book *Leadership and Sustainability* that, “Leadership (not leaders) is the key to the new revolution... leadership is to this decade what standards were to the 1990’s, if we want large scale sustainable reform” (p. xi). Fullan’s (2005) argument is supplemented by other writers with an added caveat that supports Chapman’s (2004) hypothesis about the devolution of

autonomy. This important caveat takes the traditional concept of educational organization to an entrepreneurial level— a level of entrepreneurship that may be needed within the new global economic framework.

Like Chapman, Carter (2001) examined twenty-one high poverty; high performing urban schools. The schools Carter examined were in the United States rather than Europe, however like the schools Chapman studied they were schools where change was not a choice but a necessity. Carter summarized what this new level of educational organization should look like:

Effective principals decide how to spend their money, whom to hire, and what to teach. Unless principals are free to establish their own curriculum, seek out their own faculties, and teach as they see fit, their teaching will not be the best. (p. 8)

Carter and Chapman recognized the freedom and creativity needed for success, but it is Ouchi (2003) who connects their sentiment with an appropriate, concise descriptor when he states, “With greater freedom and flexibility to shape their educational programs, hire specialists as needed, and generally determine the direction of their school, the best principals act as entrepreneurs” (p. 10).

Fullan is a noted educational futurist and Carter’s (2001) work focuses primarily on the future of educational organizations. Herszenhorn’s (2006, April 9) article in the New York Times provides evidence that a future where educational organizations become more entrepreneurial may be becoming a reality. His article summarizes the reorganization efforts of the consulting firm of Alvarez and Marshall in the New York City public school system. The consultants’ top goal is to decentralize decision making and give schools more autonomy. Principals’ parameters will be data driven measures of

success rather than a centralized bureaucracy's definition of needs. Herszenhorn further notes that similar decentralization efforts are underway in New Orleans, St. Louis, and Edmonton, Canada, efforts that are designed to shift to more autonomous decision making at the individual school level.

Private sector efforts in the form of self governing, entrepreneurial style charter school systems are emerging as well. Significant money has been contributed to the Knowledge is Power Program (KIPP) charter schools (Tough, 2006, November). KIPP schools are charter schools that operate as separate non-profit organizations. The KIPP accountability model is based on measures of student achievement and support for each independent school is provided by a centralized group of consultants. While support is provided, organizational decision making at the building level is completely autonomous (Tough, 2006, November).

Decentralized change efforts among large city school systems and the emerging success of some autonomous charter schools suggest that entrepreneurial characteristics can function within a school system. The pertinent question of how those characteristics influence the schools and their measures of student achievement remains unanswered.

#### *What Makes This Study Important?*

The forces of globalization and the momentum of new attempts at entrepreneurial organization in schools may have the power to move the proverbial stone blocking Plato's cave, shining light on what has been in education. Will educators see the light and move gracefully towards the future, or struggle for the comforting darkness of the cave? If entrepreneurial workers and entrepreneurial organizations represent a significant part of the future economic reality, then educational organizations in the United States may

have to change to remain relevant. They may need to produce graduates who are prepared to work in or lead entrepreneurial organizations.

Interestingly, the need for entrepreneurial workers is found in other public sector organizations, organizations that are also moving their bureaucratic Plato's stones to see the light of future needs. As Bowerman (2003) notes in his work examining leadership development in a governmental health insurance organization, other heavily bureaucratic organizations are looking to be more competitive and customer service oriented. His phenomenological case study found three key areas of growth for public sector organizations that are in the midst of transforming. The key areas are the need to understand emergent strategies, the need for marketing, and the need to develop workers who are learners and leaders. Bowerman notes that these three key areas of growth are more closely aligned with what he calls a "...more private and entrepreneurial format" (p. 6).

Like moving a large stone these changes are not without struggle. Noer (1997) describes the challenges inherent with such change in battle-laden prose when he writes: "The struggle to break the grip of a culture that worked in the past but is choking the future is a mark of the new reality, and is being waged in almost all organizations" (p. 121). Perhaps an examination of the extent of existing entrepreneurial organizational characteristics among schools will provide a fulcrum to help leverage the change struggle. This examination may provide a future rationale for the integration of more entrepreneurial organizational characteristics in schools, in essence helping public schools provide the changes needed to remain relevant in the global economy and create a private sector model of entrepreneurial drive within the public school setting.

### *Research Questions*

The questions addressed in this research were dependent on the level of entrepreneurial characteristics found in elementary schools located in Hawaii as measured by the Public School Entrepreneurial Inventory (PSEI). After satisfactory examination of the PSEI was completed, the following research questions were studied:

1. How did the level of entrepreneurial organizational characteristics vary in Hawaii and Israel as measured by the PSEI?
2. How did the level of entrepreneurial organizational characteristics relate to student achievement?
3. How did the level of entrepreneurial organizational characteristics relate to different school characteristics, specifically: principal's years of experience, school size, geographic location, and socio-economic level?

### *Definition of Terms*

Organizational Entrepreneurial Characteristics – The following four characteristics are common among organizations that are characterized as entrepreneurial:

- Can manage and tolerate the risk associated with change because of the organizations ability to compare a risk to the benefits that risk produces (Bilen, Kisenwether, Rzasz, & Wise, 2005; Nunn, 2004; Gendron, 2004; Tucker, 1988)
- Are innovative, creative, focus on teambuilding, and emphasize leadership (Eyal & Kark, 2004; Gendron, 2004; O’Gorman, 1999; Haberman & Dill, 1999; Morrison, 2000; Tucker, 1988)



- Have a global understanding about the importance of experiencing autonomy, freedom, and independence (Coulson, 2003; Gendron, 2004; Haberman & Dill, 1999; Morrison, 2001; Nunn, 2000; Xu & Ruef, 2004)
- Are atypically motivated to meet challenges that elicit fulfillment and organizational satisfaction (Eyal & Kark, 2004; Gendron, 2004; Haberman & Dill, 1999; Stokes, 2002; Tucker, 1988).

Public School Entrepreneurial Inventory (PSEI) – This instrument is used to specifically measure entrepreneurship in education. Its development was needed because comparable measures used in the business sphere emphasize competition and risk taking. The PSEI was developed by Ori Eyal and Dan Inbar and has been used in two published research studies (Eyal, O & Inbar, D., 2003; Eyal & Kark, 2004). The PSEI uses a two-domain model of school entrepreneurship. The two domains are innovativeness and pro-activeness.

Innovativeness – The perceived amount of new ways or methods implemented in the school during a given time, and is measured in relation to the state of affairs in the particular school before the innovation and not as a comparison with other schools (Eyal, O & Inbar, D., 2003, p. 231; Lyon, D., Lumpkin, G. & Dess, G., 2000).

Principal/ Manager Proactiveness – The elementary principal’s willingness to initiate actions within the school that are intrinsically motivated and not imposed by superiors or authorities at the central or district office (Eyal, O & Inbar, D., 2003, p. 230; Lyon, D., Lumpkin, G. & Dess, G., 2000)

## CHAPTER II

### REVIEW OF LITERATURE

Five sections are contained in this review of literature; each section is titled using an essential question. Each section's essential question is designed to guide the reader through important concepts presented in chapter one, concepts that serve as the foundation for this research project. In addition, each essential question attempts to link the important concepts with the research methodology described more fully in chapter three. In each of the five sections, answers to the section's essential question are explored using pertinent research. In all sections an attempt is made to provide the reader with a balance of contradictory research findings. Fundamentally, the essential questions are designed to connect the research project's conceptual underpinnings with the actual research methodology.

The five section's essential questions and their corresponding connections to the research methods are:

1. *How has the discourse about entrepreneurial organizational characteristics evolved?* This section examines the historical conceptual development of the independent variable – entrepreneurial organizational characteristics – and legitimizes its use as an independent variable in this study.
2. *What are indicators of school success in elementary schools?* This section defines and examines the dependent variable – school success in elementary schools - to the fullest extent possible with the recognition that school success has a myriad of definitive characteristics that vary from school to school and from student to student.

3. *How are entrepreneurial characteristics measured in organizations?* This section explores various instruments and research methods used to determine relationships between the independent variable and the dependent variable.
4. *How do the entrepreneurial characteristics influence an organization's success?* This section explores the potential effect of the independent variable by examining other types of organizations and their corresponding measures of success.
5. *How do entrepreneurial characteristics influence a school?* This section explores the potential effect between the two variables within the school organization.

The hope is that the organizational structure of this chapter will provide a clear link between the underlying concepts and the research methodology using pertinent research.

#### *Section One -How Has the Discourse About Entrepreneurial Organizational Characteristics Evolved?*

Traditional ideas that define entrepreneurship are enveloped in the notion of a lone, risk taking person toiling in a garage until their radical, breakthrough idea comes to fruition and produces profitable results. Research by Nicholson and Anderson (2005) found this traditional ideal consistently reinforced by the popular press. Their analysis of four hundred and eighty articles published during the year 1989 and the year 2000 revealed metaphorical images of entrepreneurs. The majority of the images described entrepreneurs as “wolfish charmers, supernatural gurus, successful skyrockets, community saviors and corrupters” (Nicholas & Anderson, 2005, p. 153). Nicholson and Anderson’s research was an attempt to determine whether the rising chorus of entrepreneurial scholarship was reaching the mainstream population through the press.

More scholarly definitions of entrepreneurship, while still primarily rooted in the business realm, encompass not only a lone entrepreneurial person but also an entrepreneurial approach, attitude, characteristic, or concept. Nicholson and Anderson's (2005) broader definition of entrepreneurship was the process of "...creating new realities; transforming ideas into new ventures, and transposing old ideas into new situations" (p. 154). Kurato's (2007) more specifically defines these new situations when he notes that "an entrepreneurial perspective can be exhibited...in profit or non-profit enterprises and in business or non business activities" (p. 2). While Nicholson and Anderson (2005) hoped to discover more broadly defined linguistic metaphors about entrepreneurship, their data showed a persistence of entrepreneurship concepts that reflected entrepreneurship as an individual person or individual business enterprise rather than an approach, attitude, characteristic, or concept.

While Nicholson and Anderson (2005) examined metaphorical images in the press, two other researchers examined entrepreneurial conceptualizations in a more specifically defined group. Henderson and Robertson (2000) surveyed one hundred and thirty eight business school students. The survey data was designed to gauge two domains: the students' perceptions about entrepreneurship and their potential career choices. The surveyed population consisted of business management students or students who had specifically studied entrepreneurship. The research rationale was based on the authors' belief that smaller enterprises represent future economic growth and that workers will need to function well in enterprises that exemplify entrepreneurial characteristics. To support their rationale, Henderson and Robertson (2000) noted a conceptual approach to entrepreneurship which "...takes a more dynamic perspective

with entrepreneurship crucial for economic development and as a catalyst for change” (p. 280). However, their survey data showed a consensus that again supported a personified version of entrepreneurship. Based on the data, the research findings indicated that students thought entrepreneurship was a trait individuals were born with rather than something that could be learned or taught. This narrow, personified understanding of entrepreneurship limits the application of entrepreneurial characteristics to organizations.

Because of these narrowed personified ideas, entrepreneurial characteristics in educational organizations seem antithetical. Educational organizations combined with traditional entrepreneurial ideals –lone risk takers, seizing opportunities for profits - could be considered an oxymoron. During interviews with educational leaders (Byrne, 2005), questions were asked about the differences between entrepreneurs and elementary principals. The responses mirrored oil and water separation and the theme of a personified entrepreneur rather than entrepreneurial approaches, attitudes, characteristics, or concepts. A veteran principal stated that an entrepreneur is:

...somebody who goes a whole new direction and it's not something established, uncharted waters type of thing. Since we are talking about education, you are thinking about something that is already established not like a brand new thing.

So you don't really think of an entrepreneur in education. (Byrne, 2005, p. 9)

Another principal, with less years of experience noted...”we're an established business. You don't have to take a risk here if you don't want to and still be deemed successful without taking that risk” (Byrne, 2005, p.2).

Some public ideas about entrepreneurship and entrepreneurial characteristics found in research (Henderson & Robertson, 2000; Nicholson & Anderson, 2005) coincide with the quotes from the interviews and link entrepreneurship to a person or to a new business enterprise rather than to an approach, attitude, characteristic, or concept. However pervasive this line of reasoning is, the basic tenants are contrary to many findings from the field of entrepreneurial studies.

For purposes of this study, the independent variable of entrepreneurial organizational characteristics relies on the definition shared in chapter one's introduction; a definition that outlines four organizational characteristics, unrelated to an individual person. To support this broader organizational approach to entrepreneurship and to legitimize this study's independent variable, further review of entrepreneurship research follows. A review that attempts to accomplish what Bechard and Gregoire (2005) noted when they wrote that "...the single most important challenge for the future (of entrepreneurship research) lies in developing a scholarly expertise in the dual fields of entrepreneurship and education" (p. 38).

The two fields came closer together when Davidsson, Low, and Wright (2001) reviewed entrepreneurship research trends between 1988 and 2001. Their review exemplified a pattern of entrepreneurial research that goes beyond studies of an individual person or an individual enterprise. They argued that "...entrepreneurship can be viewed as an emergence of a new economic activity; regardless of organizational context and admitting that similar processes take place in the non-commercial domain" (p. 13). Entrepreneurship in the non-commercial domain is a dramatic shift away from the prevailing, popular ideals. However, Davidsson, Low, and Wright (2001) based this

conclusion on research trends that have progressed from studies of entrepreneurial personalities to studies of entrepreneurial characteristics in organizations that are firmly placed in the non-commercial domain, like government work (Tucker, 1988; Hindle, K. & Cutting N., 2002) and even public schools (Stokes, 2001; Eyal, O. & Kark, R., 2004; Eyal, O & Inbar, D., 2003).

Entrepreneurial concepts being applied to school organizations represents a nascent change. Teacher efficacy, school climate, and transformational leadership studies about educational organizations are not nascent and are accepted as applicable scholarly pursuits. Unlike these entrenched scholarly pursuits, the burgeoning scholarly study of entrepreneurial characteristics among educational organizations has drawn a healthy level of skepticism.

Mautner's (2005) discursive profile study about entrepreneur and entrepreneurial language in relation to universities exemplified studies that are skeptical (Kalu, 2003; Terry, 1993; Kobrak, 1996). Her study found that entrepreneur and entrepreneurial language are "...ambiguous in denotation and rich in connotations, making them susceptible to processes of semantic appropriation to suit particular agendas" (p. 95). Mautner (2005) later hypothesizes that the use of entrepreneurial as a "central motto and rallying cry" may be an attempt to garner attention from "powerful external constituents – (like) corporate partners and governments" (p. 113).

Mautner's (2005) findings and subsequent hypothesis provide a contradiction that actually supports the examination of entrepreneurial organizational characteristics, the type of examination proposed for this study. If public education can garner additional attention and subsequent respect from powerful corporate and governmental

organizations and their leaders, then a clearer understanding of public schools' relevance to future economic needs may follow. For example, if corporations, governments, and constituents involved in public education clearly see how public education connects to a globalized, entrepreneurial influenced world, then additional monetary and public policy support may follow, helping to reverse the current trends of decreased funding and increased punitive accountability measures.

Mautner's (2005) contradiction was found in other studies that attempted to de-legitimize the connection between educational organizations and entrepreneurial characteristics. Kalu's (2003) analysis of current research suggested that efficiency in the private sector is profit driven while the public sector is based on client satisfaction. As other researchers (Xu & Ruef, 2004; Tucker, 1988) have determined and common business practices has suggested, these two efficiency motivators are not exclusive. Any entrepreneurial organization or enterprise without a focus on client satisfaction may quickly become irrelevant and unsuccessful. Kalu (2003) further noted that "entrepreneurial rule breaking and manipulation of public authority for private gain" would undermine democratic institutions (p. 559). This statement became contradicted when Kalu (2003) wrote:

The difficulty in transforming public bureaucrats into administrative entrepreneurs has more to do with the transformation of the bureaucratic mindset than with institutional organizational redesign. It has to do with transforming the restrictive rule bound mindset of public bureaucracy into a personalized competitive mindset of the free market entrepreneur. (p. 552)



Kalu's (2003) effort to de-legitimize the connection between educational organizations and entrepreneurial characteristics actually further legitimizes this studies proposed independent variable. The independent variable is not a change in organizational design, but a determination of the infusion of organizational entrepreneurial characteristics within the current organization of public schools; or to use Kalu's (2003) terminology, to determine the level of entrepreneurial influence on the "bureaucratic mindset".

Further research findings about entrepreneurial behavior in social networks and organizations support the importance of examining the "bureaucratic mindset". Estimates of the number of people who engage in entrepreneurial behavior ranged from 20% of the population (Reynolds & White, 1997) to over 50 % (Aldrich & Zimmer, 1986). Based on these percentages and previous research from the social sciences and business, Shane and Venkataraman (2000) concluded that:

Since a large and diverse group of people engage in the transitory process of entrepreneurship, it is improbable that entrepreneurship can be explained solely by reference to a characteristic of certain people independent of the situations in which they find themselves. (p. 217)

Additionally, if entrepreneurial behaviors are as pervasive as researchers predict then, as England and Holmgren (2006) described, public education needs to be part of the catalyst for change to a more entrepreneurial mindset among the general population. Or as Steyaert and Katz (2004) surmised from their attempt to conceive entrepreneurship as a societal rather than economic function, "...bring entrepreneurship out of its selected circle of entrepreneurs and entrepreneurial companies and into focus upon social processes in the broadest sense" (p. 180). Gendron's (2004) qualitative analysis of

interviews with six prominent entrepreneurial leaders was designed to answer a question related to broadening the circle of entrepreneurial influence. He asked if entrepreneurial curriculum should be integrated into a curriculum for non-management majors. His findings from the interviews was that yes, this shift was a preferred course for a future with more need for entrepreneurial organizations.

An action or effort can usually be legitimized by a need. Changing a school's curriculum or refining a school organization can only be justified by a tangible, socially agreed upon need. While the foundation of this research project is a speculation about the future needs of schools, the study's independent variable is rooted in needs determined by the research of the past. As demonstrated from the preceding examination of past research, a need for future research exists based on the ambiguity of results. In addition, the legitimacy of the independent variable is supported by sufficient research findings and research contradictions.

Several researches (Berglund & Holmgren, 2005; Bechard and Gregoire, 2005) agree that there is a need for studies that examine the impact of entrepreneurship on the whole educational system. By measuring the independent variable of entrepreneurial organizational characteristics and determining its effect on school success, this proposed research hopes to fulfill the need of clarifying the ambiguity of past findings and help, in a small way, to determine the direction of future research.

### *Section Two - What Are Indicators of School Success in Elementary Schools?*

What is evident from the preceding examination of entrepreneurship in public school educational organizations is the uncharted nature of the existing scholarship. Two research studies from Israel (Eyal & Kark, 2004; Eyal & Inbar, 2003) currently represent

the most in-depth empirical examination of entrepreneurship in public education. Plenty of scholarly writing encourages further exploration. Eyal and Kark (2004) postulate that comparisons among private and public schools are needed to determine whether a specific type of funding stream impacts entrepreneurship. They also encourage exploration about the effects entrepreneurial levels have on transformational leadership characteristics. Berglund and Holmgren (2005) stress the importance of broadening the study of entrepreneurship to organizational creation rather than simply business creation. Delving into specific aspects of the school organization, they suggest studying the connection between entrepreneurship and learning and how teacher training would be impacted by including the study of entrepreneurship. Shane and Venkataraman (2000) postulate how entrepreneurial opportunism is connected to the change process. They encourage the study of how entrepreneurship impacts changes among all types of organizations including non-profits like schools. Finally, Bechard and Gregoire (2005) make an emphatic call for studies that not only focus on entrepreneurship in higher education, but "...which take the impact of entrepreneurship in the whole educational system into account" (p. 5).

Even though an increasingly large chorus seems to be rising about the study of entrepreneurship in schools, it would be premature to describe the field of study as established. Directly contrasting the new scholarly endeavor representing the independent variable is the firmly established scholarly examination of school success. School success will represent the dependent variable for this proposed study. Like entrepreneurship, school success has various interpretations and connotations. While vague in meaning,

school success is definitely a targeted variable that is often examined in research (Borman et al., 2002).

The volume of research examining school reform programs consumes an enormous amount of time, effort, and resources. Similarly, resources dedicated to school improvement can be gauged by the volume of research examining school reform programs. Elmore (2003) notes a rationale for the enormous number of reform programs when he speculates that the problem with low performing schools is not the lack of effort but getting people to put their effort into the right direction, or right work. The notion of the right work ideal or reform efforts, leading to successful schools has produced a huge amount of research.

A meta-analysis of school reform sponsored by the U.S. Department of Education and published in 2002 (Borman et al., 2002) provides a definitive data display of resource dedication geared towards school improvement. The study examined 29 school reform models ranging from Accelerated Schools to Urban Learning Centers and 232 studies that examined the effectiveness of the models. Thousands and thousands of hours were spent on the development, implementation, and research of these programs. The cumulative years of research were designed to gauge the models' effectiveness by examining various measures of student achievement in an attempt to define school success.

No definitive results, holy grails, or magic formulas were unearthed in the 2002 (Borman et al.) meta analysis. Certain programs were found to be more effective in a variety of contexts, but a direct relationship between certain types of schools and student achievement remained elusive. While the authors conclude that an experimental approach

to educational reform is a necessity they also concede that only "...a long term commitment to research-proven educational reform...will bring comprehensive reform to the nation's schools" (Borman et al., 202, p.39). More research has concluded that school-level factors rather than school reform efforts have produced more consistent student improvement, for example (Schmoker, 2004):

...higher-quality solutions to instructional problems, increased confidence among faculty, increased ability to support one another's strengths and to accommodate weaknesses, more systematic assistance to beginning teachers, and the ability to examine an expanded pool of ideas, methods, and materials. (p. 431)

More research support of school-level factors aligns with the conceptual underpinnings of the relationship between variables for this proposed research. That is, available data indicators of school success will be impacted by a measure of the existing school level measure of entrepreneurship, not the implementation of a school reform effort or school organizational change.

Because the research goal for this proposal is not to establish a measure of a reform effort, an exhaustive researched definition of school success is not within the parameters of this study. Using a methodology similar to Eyal and Kark's (2004) study, this study will explore relationships among the newly developed independent variable of entrepreneurial organizational characteristics and commonly used data indicators of school success. In addition, other data points will be examined for purposes of exploring relationships among entrepreneurial organizational characteristics and school characteristics. School success data indicators commonly used in Hawaii are a school's Hawaii State Assessment (H.S.A.) scores. Other data points that embody school

characteristics are population demographics, leadership experience, diversity, formative assessments, school climate, and teacher efficacy (Marzano, 2003; Schmoker, 2004).

While this quasi-experimental approach to variables limits firm conclusions, it does provide enough flexibility to determine potential future directions for research based on variable relationships; directions for a scholarly pursuit that is notably new. The dependent variable of school success has common state mandated measurement tools. As mentioned previously, the research relationship between entrepreneurial characteristics and positive organizational outcomes has been primarily explored in the for profit business realm. Even business oriented studies have made a link between entrepreneurial characteristics and non-financial measures. Lumpkin and Dess (1996, 2005) found that the satisfaction and commitment of organizational members were among the non-financial measures being impacted by corporate entrepreneurship. These findings support the concept of a dependent variable being non-quantitative. However, measures of entrepreneurial characteristics in organizations are not as readily understood and require further explanation, to avoid this study languishing in a non-experimental rather than quasi-experimental realm.

While connections between school success and entrepreneurial organizational characteristics are scant, evidence is emerging from non-profits, evidence that suggests that entrepreneurial orientation has important implications for non-profit organizations. Researchers (Morris, et al., 2007) concede that the role of entrepreneurial orientation may be more complex in non-profits. However, using a self-reporting instrument similar to the PSEI, Morris, Coombes, Allen, and Schindehutte (2007) found clear variation in the level of entrepreneurial orientation among non-profits. These subsequent variations

related to levels of variation in market orientation, transformational leadership, and process and product innovation. This research supports the model of variable relationship that has previously been established in research looking at for profit business in non-profit organizations, like schools.

### *Section Three - How Are Entrepreneurial Characteristics Measured?*

Fortunately, researchers (Eyal & Inbar, 2003; Brown, Davidsson, & Wiklund, 2001) have developed valid and reliable entrepreneurial measures. These measures have helped to enhance empirical studies of entrepreneurship. Similar to the development of entrepreneurial scholarship, entrepreneurial measures have developed from tools measuring individual entrepreneurial characteristics to tools measuring entrepreneurial organizational characteristics.

An avenue of measurement used to determine individual entrepreneurship is typified by Tucker's (1988) research. Instead of developing a specific tool, Tucker synthesized past conceptualizations of entrepreneurs and tested these conceptualizations with a large survey sample of public employees and entrepreneurs. Tucker's data is based on the Panel Study of Income Dynamics (PSID) which was a national longitudinal survey that included data gathered since 1968. The data gathered by the PSID was not originally designed to determine entrepreneurship among individuals; Tucker was able to mesh the data gathered with domains typified by entrepreneurs. The two domains examined were achievement motivation and risk avoidance, which just happened to be part of the PSID data. Tucker's example of examining certain entrepreneurial domains continues to be used by researchers (Eyal & Inbar, 2003; Lyon, Lumpkin & Dess, 2000; Brown, Davidsson, & Wiklund, 2001), although the developed domains encompass whole

organizations rather than an individual. Again, this mirrors the progression of entrepreneurial scholarship (Davidsson, Low & Wright, 2001).

As has been noted previously, the majority of entrepreneurial scholarship is conducted in the business realm; however the most prevalent entrepreneurial domains used in measurement tools are not limited to business and can be used to measure various types of organizations. Domains identified by Lyon, Lumpkin, and Dess (2000) synthesized past entrepreneurial conceptualizations and included: innovativeness, proactiveness, risk taking, and autonomy. Three similar domains or components were identified as: innovativeness, risk-taking, and proactiveness by other researchers (Covin & Slevin, 1989; Kreiser et al., 2002; Miller, 1983; Wiklund & Shepherd, 2005). The underlying goal of these researchers was to develop either a domain or component driven direction for entrepreneurial orientation measurement regardless of the type of organization.

Brown, Davidsson, and Wiklund (2001) took their suggested next step and developed a forced choice survey of CEO's designed to determine how close the organization related to two distinct ends of the entrepreneurial characteristic spectrum. The two distinct ends of the spectrum were the most entrepreneurial promoter end and the least entrepreneurial trustee end. Organizational leaders rated their closeness to those two ends of the spectrum in each of six identified entrepreneurial domains.

While Davidsson and Wiklund's (2001) measurement tool could be used with various organizations, Eyal and Inbar (2003) developed a domain driven measure that was specifically tailored for public schools. Eyal and Inbar developed the Public School Entrepreneurial Inventory (PSEI) in an effort to maximize application to schools and to



avoid limits of Davidsson and Wiklund's tool. The PSEI focused on two domains: innovativeness and proactiveness, which were more prevalent in school organizations. They also designed the PSEI so both principals and teachers could provide responses. A limit of Davidsson and Wiklund's tool was that only CEO's responded, providing a potentially myopic perspective.

Eyal and Kark (2004) used the PSEI in a published study that effectively determined how an elementary school's entrepreneurial characteristics varied based on the level of transformational leadership. The reliable and valid data provided results that showed an effect between the level of entrepreneurial organizational characteristics as defined by their two domains, and the level of transformational leadership. Potential future explorations suggested by Eyal and Kark included examining how entrepreneurial organizations effect school success; the proposed variables in this study.

#### *Section Four - How Do the Entrepreneurial Characteristics Influence an Organization's Success?*

Before examining specific levels of school success, the more prevalent arena of entrepreneurial studies out side of schools, will be explored to determine whether there is a potential for a relationship between the two variables. Using the following articles, an argument is formulated that entrepreneurial organizational characteristics can successfully exist among the *sine quo non* of substructures in the educational process: planning, financial management, and quality (Sobehart, syllabus, Fall 2005).

Entrepreneurial planning is often associated with conceptualizing a new idea or fresh approach to a product or service. Entrepreneurial leaders build their business organization upon the new idea. The start of the new organization is the focus of this

typical entrepreneurial planning paradigm. However important a good start is, organizational planning is a continuous process. Organizational planning is a process that envelops every member of the organization in a journey of continuous improvement.

Effective organizational characteristics determine whether planned continuous improvement happens during all phases of organizational development, not just the start. As noted in the operational definition, entrepreneurial organizational characteristics are typified by teambuilding and leadership, not ownership. This is an important distinction when attempting to apply entrepreneurial organizational characteristics to educational organizations. While educational organizations change, their fundamental ideas or approaches are not new. Therefore the typical conception of entrepreneurial planning does not fit the need of education unless the typical conception is inaccurate.

O’Gorman and Doran (1999) provided linkage that fits entrepreneurial organizational characteristics snugly into a planning practice common in education. This planning practice is the creation of mission statements. Mission statements serve as beacons for educational planning; they provide common organizational tenets to all organization members. O’Gorman and Doran examined the prevalence and content of mission statements among 115 small to medium business enterprises (SMEs) from Ireland. The study’s purpose was to substantiate or refute a claim that higher performing organizations had more comprehensive mission statements.

O’Gorman and Doran (1999) used Pearce and David’s (1987) methodology of examining mission statements for eight components. They then determined if inclusion of those eight components effected profits over time. While the methodology is similar, the sample O’Gorman and Doran used is different. O’Gorman and Doran examined SMEs

instead of large corporations because of SMEs unique organizational attributes; entrepreneurial organizational characteristics characterize SMEs. O’Gorman and Doran were interested in determining whether creating a mission statement supports an entrepreneurial endeavor during its growth transition from small start-up to established organization.

Using Fischer’s Exact Test and a significance level of .05, O’Gorman and Doran (1999) found that mission statements did not have an impact on profitability with SMEs. High growth SMEs did not have more comprehensive mission statements than low growth SMEs. Mission statements seemed to be irrelevant. They also concluded that the majority of SMEs mission statements are not conclusive as measured by the eight components, and in many cases are non-existent. O’Gorman and Doran’s conclusions relevant to organizations are: entrepreneurial organizations propagated the mission through direct interaction, entrepreneurial organizations did not allocate time developing mission statements, and entrepreneurial organizations did not look to large corporations as examples of creative direction.

A disconnect between mission statements, a planning practice common in education, and entrepreneurial organizational characteristics is suggested by these findings. However, if the entrepreneurial organization has teambuilding skills that spread an inherent sense of mission, perhaps the traditional function of a mission statement is not necessary in individual schools or smaller school districts. This argument was supported by O’Gorman and Doran (1999) finding that the lagging performance indicator of profits did not correlate with mission statements of SMEs. Organizational growth continued without comprehensive mission statement planning. This refuted Pearce and

David's (1987) findings, but those differences may be more attributed to the different organizational planning characteristics between large corporations and SMEs.

While not directly comparable to educational organizations, O'Gorman and Doran (1999) provided evidence that the entrepreneurial organizational characteristics' role in planning is not limited to starting an organization. Swiercz and Sharon (2002) provided additional evidence to support the concept of entrepreneurial organizations being able to manage the planning process, especially during organizational growth phases.

Swiercz and Sharon (2002) examined two questions through semi-structured, qualitative interviews. The interviews were with 27 entrepreneurial leaders; leaders whose companies have been in operation for at least three years and have a minimum of 75 employees. The two questions: Were there two distinct phases for emergent organizations? What are the competencies of career entrepreneurial leaders? Their goal was to examine the warrant that professional managers should replace entrepreneurial founders when an organization grows.

Using *Enthnograph* version 5 for data coding, Swiercz and Sharon (2002) found that organizations do go through two distinct phases: phase I – start up and phase II – ongoing enterprise. Of particular interest was phase II, a phase in which organizations must focus on long term sustainability while still maintaining the entrepreneurial spirit that propelled the organization towards success in the first place. This second phase is most relevant to educational organizations because, as stated previously, the educational process is not decidedly new or innovative. Swiercz and Sharon found that during phase II entrepreneurial organizations were cognizant of their need to change organizational

roles and capabilities as the organization transitioned. Specific organizational role changes, like developing ideas with clarity and implementing consistent evaluations, presented themselves from the analysis.

These findings suggested a flaw in the conventional wisdom that entrepreneurial organizational characteristics are only prevalent during the start of an organization's growth. Swiercz and Sharon's (2002) findings also promoted further postulation that career entrepreneurial skills could be learned. This presupposition emerged from the finding that entrepreneurial workers recognize and learn specific skills as the organization moves to phase II.

Both studies also suggested that entrepreneurial organizational characteristics can function effectively during on-going organizational planning, not solely during the start of an organization. The implications are that existing educational organizations could potentially benefit from entrepreneurial organizational characteristics during times of growth and change.

While planning is often seen as limited to the start up phase of entrepreneurial organizations, a keen financial focus is often perceived as an on-going, intense concern of organizations. Common perceptions often portray the entrepreneurial organizations as profit driven, focused on the bottom line, and a bit narcissistic. In the operational definition, profits are excluded from the description of entrepreneurial organizational characteristics because research (Eyal, 2001; Gendron, 2004; Tucker, 1988) has found that profits are not a determining, driving motivator for entrepreneurial organizations. Self-fulfillment and atypical motivation stem from the personal satisfaction of creating

and sustaining an autonomous, successful organization, not bottom line profits (Eyal, 2003).

Financial success becomes a lagging indicator of the entrepreneurial organization's ability to motivate and overcome challenges. In education, the main lagging indicator is student achievement. While financial profits are not prevalent in public education, fiscal responsibility and prudent financial management are paramount to successful growth. This is especially relevant in an era of property tax reform and tight budgets. These financial constraints are juxtaposed with increased public pressure for higher student achievement. This relation is often succinctly termed accountability.

Healthcare organizations have been changing under increased accountability pressures as well. Hindle and Cutting's (2002) study attempted to fill a void in entrepreneurial research by examining how Australian healthcare organizations transitioned from non-profit to profit organizations. Because of increased financial pressures, Australian pharmacists' roles evolved to include more entrepreneurial characteristics – increased personalized services and intensified marketing efforts. Hindle and Cutting hypothesized that applied entrepreneurial organizational characteristics training during the transition from non-profit to profit would increase the leading performance indicator of job satisfaction, i.e. self-fulfillment, which would then increase the lagging indicators of increased sales and profits.

Hindle and Cutting (2002) used a post test-only control group design and gathered data from 48 total respondents (25 from the trained group and 23 from the untrained group) through a Likert style questionnaire. Because an ordinal measure was used, the Mann-Whitney U test was used for hypothesis testing. Significant differences were

found in the area of job satisfaction but not sales or profit performance. Hindle and Cutting emphasize two limitations about the financial data. The financial data was based on estimations and a significant lag time existed between application of the entrepreneurial training and the gathering of financial data. They speculate that financial data may not have been accurate.

While a strong relationship between entrepreneurial training and financial measures is lacking, Hindle and Cutting's (2002) study does provide a link between entrepreneurial organizational characteristics and job satisfaction. The connection to education is the relationship of job satisfaction during a time of increased financial accountability. If entrepreneurial organizations have a higher degree of job satisfaction among its members, then their ability to function effectively during times of increased accountability would potentially be higher.

Another component of increased public accountability pressures being placed on public education is enhanced organizational quality. Organizational quality is most often based on customer satisfaction. An organizational member can espouse the wonderful qualities of their organization from the highest pulpit, but the truest measure comes from customer conversations about satisfaction. Stokes (2002) compared marketing practices of principals with small business owners and found that the most powerful marketing effect for both organizations was word of mouth. For schools the power was enhanced based on parents who are involved in the school.

Traditionally, bureaucratic organizations were not focused on customer satisfaction (Stokes, 2002; Bowerman, 2003). Organizational changes are required to enhance the quality of traditionally bureaucratic organizations. Change incorporates

elements of risk. Enhanced quality requires the ability to create more autonomous organizational layers that can manage customer satisfaction (Gendron, 2004). Both managing risk and embracing autonomy are elements of the operational definition of entrepreneurial organizational characteristics.

Bowerman's (2003) case study of an organization's transformation from public bureaucratic format to private entrepreneurial format provided evidence that quality can be enhanced through the development of entrepreneurial organizational characteristics. Bowerman studied a development program used during the transition from public to private organization. The program focused on experiential, action learning that involved real problems the organization faced. In addition, organizational issues and reflective writings were included in the six month programs. Ethnographic and phenomenological methods were utilized to gather data from 29 participants. Specific data collection tools included interviews, surveys, and longitudinal writings.

Bowerman's (2003) findings suggested four themes that could influence entrepreneurial organizational characteristics development, particularly in transitional organizations. One was the need for members to understand emergent strategy. A second is the need to market and sell ideas so that the organizational message is consistent. The third and fourth findings involved all organizational members in the challenging task of learning and developing leadership skills.

Bowerman's (2003) findings dispelled the idea that a bureaucratic, top down organizational approach can work in an organization that is focused on quality. In an entrepreneurial organization, quality will be enhanced when leadership emerges from all areas of the organization, and this will happen when every organizational member is



aligned with the main ideals of the organization. In essence, decision making control is dispersed throughout the organization. The last two findings are related to the flattening of modern organizations. By building autonomous confidence among all layers of organization, team members can provide a better alignment of services. Higher customer satisfaction can result through more expedient service and a better overall understanding of the organization's ideals and goals. By extrapolating Bowerman's results, an argument could be made that quality is enhanced when all organizational members display the entrepreneurial characteristics of being able to manage change and being more autonomous.

If organizational planning, financial management, and quality are influenced by entrepreneurial characteristics, then an argument could be made that similar patterns exist in education. However plausible the connection between entrepreneurial characteristics and schools may seem, linking entrepreneurial organizational characteristics and public schools may be considered unorthodox among educational researchers and practitioners; researchers and practitioners who are used to a more bureaucratic government driven system.

#### *Section Five - How Do Entrepreneurial Characteristics Influence a School?*

An example of the potential unorthodoxy is summarized by Crook (2007, March) when he examined the findings unearthed by educational researcher James Tooley. Crook noted that the association of private market driven solutions with public schools often pushed researchers and theorists outside of the mainstream. Crook used the cautionary tale of legendary economist Milton Friedman to emphasize the potential foreboding. Friedman spent the last years of his life arguing that publicly funded vouchers and a

market of entrepreneurial style schools were a way to improve the American educational system. Friedman's arguments were often left to the cold, empty shelf of obscurity, far from the mainstream.

Crook's (2007) goal in the article was to help propel Tooley's research findings into the mainstream. He noted, "If good ideas were all that mattered, everybody who has heard of Jeffrey Sachs would have heard of James Tooley as well" (p. 38). He continued by drawing a parallel between the two social economists and their work to relieve extreme poverty throughout the world; Sach through micro-loans and Tooley through "dime-a-day for profit schools" (Crook, 2007, p. 39). Tooley's research about how entrepreneurial schools flourished in developing countries provides a starting point for considering how the independent variable of entrepreneurial organizational characteristics can influence the dependent variable of organizational success within the specific framework of schools.

As was noted in Chapter 1, globalization and its associated pressures are changing the world. In 1999, Tooley specified a research question that has framed much of his work. Tooley wondered how an educational system "...can hope to foster choice, autonomy, and accountability – the requirements of the global market – without first acquiring these characteristics itself" (p. 14). His theoretical answer came during studies of schools in the three poorest zones of Hyderabad, Andhra Pradesh, India. By examining these poor areas, Tooley and Dixon (2005) discovered 918 schools of which 60% were private schools unaided by the government. The researchers found some surprising characteristics among these schools. The unaided schools served the majority of children in the regions (close to 65%), scored better in measures of accountability, and provided

free or reduced rates to 20% of their student population. Additional analysis of schools throughout the developing world led Tooley (1999, September; 2000, January; 2001, September; 2003, March) to further articulate reasons for their success. He theorized that a significant reason why unaided schools succeed is because of the entrepreneurial organizational characteristics the schools embodied: innovativeness, freedom, leaders who see opportunities, consistency of service, and market driven continuous improvement.

Tooley (2000, January) uses a historic metaphor to further clarify the implications of his findings. He writes that:

The Model T Ford was not a failure. In fact it was incredibly successful. But just because it was a huge success at the beginning of the 20<sup>th</sup> century, doesn't mean that we would all want to be driving around in Model T's now. (p. 26)

Tooley's quote implies that no progress has been made in public education, which is a point of view that can ostracize public educators. While his point of view may seem radical, the systemic change of moving to more entrepreneurial organizational characteristics within the school setting is not limited to unaided schools in the developing world.

In an examination of school trends in Chile, India, Pakistan, Thailand, Tanzania, the Dominican Republic, Colombia, Philippines, Senegal, Kenya, and China, Coulson (2003) also found links between entrepreneurial characteristics and school success. He discovered that the more autonomous and unregulated the schools were, the more effectively the school performed and the more likely the school would be able to respond to parental demands. Coulson also emphasized another finding that links the independent

variable of entrepreneurial organizational characteristics and the dependent variable of school success. That finding is the ability of the school's leader to create a learning organization that is more modern and dynamic (Ford Explorer) than traditional and stagnant (Model T). As acknowledged in Chapter 1, leadership has an important impact on school success (Fullan, 2004; Chapman, 2004; Carter, 2001; Ouchi, 2003) and, for purposes of this study; leadership provides an important research link between the independent and dependent variable.

In a study with similar conceptual linkage, Lo (2005) researched the relationship between leadership style and a successful learning organization. Lo used the five disciplines model popularized by Peter Senge (2006) to define a learning organization as the study's dependent variable. The independent variable was defined as the level of transformational or transactional leadership found in a school. Using a survey of teachers from 250 primary and secondary schools in Hong Kong, she was able to determine what style of leadership most influenced Senge's five disciplines. While Lo found that transformational leadership was most effective in helping the school find success among the five disciplines, she also found that "...the existing bureaucratic governance system in most schools in Hong Kong is not favorable for the adoption of transformational leadership" (p. 21). Lo extrapolated this idea further by reiterating a refrain noted in this proposal's Chapter 1 from Fullan (2004), Carter (2001), and Ouchi (2003). She wrote that "...school principals need to rethink schools as organizations and manage schools like entrepreneurs" (p. 16). Like Coulson (2003), Tooley, and Dixon (2005), Lo (2005) recognized the need for schools to adopt characteristics more aligned with free market

enterprises. Unlike their research, she discovered this need in Hong Kong, a more developed region.

In developed regions even more pertinent to this study: the United Kingdom, Israel, and the United States, other researchers (Stokes, 2002; Chapman, 2004; Haberman & Dill, 1999; Eyal & Kark, 2004) have examined entrepreneurial organizational characteristics specifically established by a school leader. While the studies' data originated in different geographic regions, similar themes emerged. Chapman (2004), Haberman, and Dill (1999) found that principals in challenging urban contexts developed more effective parental communication and innovativeness when given more autonomy. Mirroring Lo's (2005) findings, they also noted that entrepreneurial leaders utilized a variety of approaches and encouraged distributed leadership among all staff. Stokes's (2002) sample of 10 primary principal's faced with forced market driven changes in England and Wales showed an improvement in relations with parents and a trend to "...act in a more entrepreneurial way" (p. 408). Finally, Eyal and Kark's (2004) analysis of data gathered from 1,395 teachers working with 140 elementary school principals in Israel showed that entrepreneurial organizational characteristics are more prevalent among schools with transformational leaders.

If absolute examples of entrepreneurial schools in developing countries have been found to promote school success and if transformational and entrepreneurial leadership in developed countries has been shown to promote school success, what about the link between entrepreneurial organizational characteristics and schools success in a region of the United States? This final question is the final step in the process of linking the conceptual underpinnings of this study outlined in Chapter 1 with the actual methodology

which follows in Chapter 3. By using the Public School Entrepreneurial Inventory to sample public schools in Hawaii, this work will define what relationship exists between entrepreneurial organizational characteristics and indicators of school success.

## CHAPTER III

### METHOD

The purpose of the first two chapters was to provide a theoretical foundation to legitimize the independent and dependent variables and provide a clear rationale for studying their relationships. In this study the independent variable was the level of entrepreneurial organizational characteristics in public schools as measured by the Public School Entrepreneurial Inventory (PSEI). The dependent variables were school characteristics. These indicators included student achievement as measured by the Hawaii State Assessment (H.S.A.) and other school characteristics: years of principal experience, school size as measured by number of teachers, and socio-economic level as measured by the schools' free and reduced lunch population. Since the study involved schools in a state wide system with a natural geographical break, that is various islands; a comparison of schools among the various islands of Hawaii was included.

Levels of entrepreneurial organizational characteristics in public schools are important to study because of increased economic pressures and rising expectations for schools. Globalization pressures and accountability demands crystallize into a need for dynamic learning organizations that are embedded with entrepreneurial characteristics. Berglund and Holmgren (2006) and a European Commission report (2002) called for the infusion of entrepreneurial studies at the elementary and secondary levels of education. Eyal and Inbar (2003), Fullan (2005) and Ouchi (2003) suggested that educational leaders go beyond transformational leadership and into the realm of being entrepreneurial and autonomous. Carter (2001) and Friedman (2004) noted that state, federal, and global accountability pressures are demanding more dynamic schools that espouse

entrepreneurial characteristics. Worldwide studies of successful schools that operate in challenging environments indicate that entrepreneurial characteristics emerge and enhance the school's ability to meet higher expectations (Tooley & Dixon, 2005; Coulson, 2003; Haberman & Dill, 1999). Finally, an emphasis on school level autonomous, transformational leadership that mirrors an entrepreneurial approach has also been found to enhance a school's ability to meet higher expectations (Chapman, 2004; Stokes, 2002; Eyal & Kark, 2004; Lo, 2005).

In addition to the theoretical foundations for the study, another important theme in the first two chapters was the newness of this study's topic and the innovativeness of its potential findings. The topic is so new that Davidsson, Low, and Wright (2000) suggest that the hodgepodge of entrepreneurial research might be better served by the creation of more specific scholarly research areas. Bechard and Gregoire (2005) hope additional research in the specific area of schools could inspire the institutionalization of entrepreneurship in the educational field. Eyal and Kark (2004) developed a specific measure of entrepreneurship in schools but include a laundry list of potential areas for study because of limited existing research. This current study's nascent nature guided the methodology used and detailed in this chapter. The proposed methodology and measurement tool has been used in only two published studies (Eyal & Inbar, 2003; Eyal & Kark, 2004). Both of these studies were conducted in Israel and both studies did find relationships among variables; variables similar to those in this study. Eyal and Kark's 2004 research examined the level of entrepreneurship in public schools and its relationship to transformational leadership. Eyal and Inbar's 2003 research examined the



level of entrepreneurship in public schools and its relationship to the geographic distance from a central office.

Because of the limited geographical scope of previous research using the PSEI, the first step in this study was to replicate the use of the PSEI in the United States, more specifically the islands of Hawaii. This first step was to ensure consistent use of the PSEI in a different geographical and cultural region of the world. The second step was an examination of findings to determine if a significant relationship exists between the independent variable of entrepreneurial organizational characteristics and the dependent variables of student achievement and other school characteristics. To reiterate, the three research questions were:

1. How did the level of entrepreneurial organizational characteristics vary in Hawaii and Israel as measured by the PSEI?
2. How did the level of entrepreneurial organizational characteristics relate to student achievement?
3. How did the level of entrepreneurial organizational characteristics relate to different school characteristics, specifically: principal's years of experience, school size, geographic location, and socio-economic level?

### *Participants*

Participants in the study were public elementary schools in the Hawaii. More specifically, 3,816 classroom teachers were surveyed in public elementary schools throughout the islands of Hawaii. For a school to qualify as a participant, at least five PSEI surveys needed to be returned from the school because five surveys represented a significant proportion of teachers in each school. This is detailed in Chapter 4.

Public schools in Hawaii are organized into a state wide system. Within the statewide system are complex areas with their own superintendent and school board. These complex areas generally have between one to two high schools with a corresponding number of feeder schools. However, approval for this study and the targeting of participants was completed on a state wide basis. Participating schools were delineated based on their island location not their complex area.

There are two additional notes to consider about the potential participating schools. To avoid any conflict of interests the thirteen schools, ten on Oahu and three on Maui, partnered with Edison Schools, Inc. were excluded from the research. Edison Schools, Inc. is the employer of the author and is a company that provides consulting services for schools in the process of restructuring based on the federal No Child Left Behind (NCLB) law. Schools with fewer than twenty classroom teachers were also excluded because of the likelihood of those schools not meeting the participant threshold of five returned surveys. Excluding the thirteen schools working with Edison Schools, Inc. and the fifty-one schools with fewer than twenty teachers, the total number of potential participant public elementary schools among all of Hawaii's islands is 111. A summary of schools is shown in Table 1.

Table 1

Number and Percentage of Elementary Schools by Island		
Island	Number of Elementary Schools	Percentage of Total (175 schools) Population
Oahu	124	70%
Maui	14	8%
Hawaii	24	14%
Kauai	9	5%
Molokai	4	2%
Minus Edison schools	-13	7.5%
Minus schools with fewer than 20 teachers	-51	29%
Total Potential		
Sample Schools	111	64%

Eyal and Inbar's (2003) and Eyal and Klark's (2004) research served as an example for how to use the PSEI to determine a schools entrepreneurial characteristic profile. One discrepancy was the minimum of teachers who completed the PSEI for a school to be considered part of the research sample. Eyal and Klark (2004) had a minimum threshold of seven teachers responding per each sample school. A threshold of five was used in this study with the goal being a total sample population of at least thirty schools to ensure at least 30% representation of the total potential sample. The threshold consideration is discussed more fully in Chapter 4. Once a school met the threshold of five teachers per building, the school's data was used in the study.

### *Instrument*

The PSEI was developed as a tool to measure a public school's level of entrepreneurial characteristics and from those characteristics' create an entrepreneurial profile (Eyal & Inbar, 2003; Eyal & Kark, 2004). Development of the PSEI began with qualitative interviews of 109 teachers and principals. Of the five entrepreneurial domains that were examined through the qualitative analysis, two domains emerged that were applicable to public schools: innovativeness and principal proactiveness. These two domains provided the locus of the fourteen survey questions and statements used in the PSEI.

The fourteen questions and statements use a Likert scale of 1 to 7, 1 being very strongly disagree and 7 being very strongly agree, for each response. Mean results for responses are used to determine the school's score in the two entrepreneurial domains: innovativeness and principal proactiveness. The mean score for ten questions determines a school's level of innovativeness; the mean score for the other four questions determines a school's level of principal proactiveness. Each domain's mean score are then categorized as having either a low, moderate, or high level of entrepreneurial characteristics. A combination of the two domains' levels determines the overall entrepreneurial profile of the school. According to Eyal and Inbar (2003), the four overall entrepreneurial profiles are:

The conservative school profile emphasizes stability, continuity, and maintenance of the status quo. These schools will adhere to familiar, conventional, tested educational practices. Schools dominated by the calculated profile are distinguished by a mixture of old and new practices. Innovations found at such

schools will usually be associated with minor changes that have no impact on the school's basic assumptions and mode of operation. Schools dominated by the initiating profile typically exhibit the generation of a multitude of ideas at the onset and a relatively limited implementation of new initiatives. Their modus operandi can be classed as proactive in nature and their principals promote a trial and error culture, although with limited institutionalization of irregular practices. The vigorous profile represents a radical entrepreneurial strategy, which is proactive in nature. This profile's strategy represents a dramatic departure from the current organizational strategy and is autonomous from the system's authorities. Most of the principal's initiatives lead to action and a high level of changes will take place in the school's basic assumptions and mode of operation (pp. 234-235).

Table 2 summarizes the process of using the PSEI to determine a school's entrepreneurial profile. However, because of a preponderance of conservative scores for the Hawaii sample, an adjusted entrepreneurial profile was created. This adjusted profile was formulated using the PSEI mean standard deviation for the Hawaii schools and will be further detailed in Chapter 4. Four new categories were created within the two original PSEI categories of conservative and calculating. The adjusted categories are also summarized in Table 2.

Table 2

Determining the Entrepreneurial Characteristics Profile of a School

<b>Principal Proactiveness</b>	<b>Innovativeness</b>	<b>Level for Each Domain</b>	<b>Schools Entrepreneurial Profile</b>
Mean score from four PSEI questions using a 7 point Likert scale	Mean score from ten PSEI questions using a 7 point Likert scale	<b>Original PSEI Range:</b> Mean < 4 = Low Mean 4 to 5.5=Moderate Mean > 5.5=High	<b>Original PSEI Profile:</b> 1. <i>Conservative</i> = Low + Low or Low + Moderate 2. <i>Calculating</i> = Moderate + Moderate 3. <i>Initiating</i> = Moderate + High 4. <i>Vigorous</i> = High + High
		<b>Hawaii Adjusted – based on one standard deviation = .76</b> Mean < 3.24=Low Mean 3.24 to 4.72=Moderate Mean > 4.72=High	<b>Hawaii Adjusted:</b> 1. <i>Deep Conservative</i> = Low + Low or Low + Moderate 2. <i>Conservative</i> = Moderate + Moderate 3. <i>Calculating</i> = Moderate + High 4. <i>Calculating Plus</i> = High + High
<b>Example Using Original PSEI Profiles</b>			
Principal Proactiveness	Innovativeness	Level for Each Domain	School Entrepreneurial Profile
Mean = 4.45	Mean = 5.06	Principal Proactiveness = Moderate Innovativeness = Moderate	Moderate + Moderate = Calculating

Again, the Hawaii adjusted entrepreneurial profiles are embedded in two of the most conservative of the four original entrepreneurial profiles. The two added Hawaii profiles are therefore inherently conservative. The first new Hawaii adjusted profile of deep conservative represents a school deeply embedded in the status quo and use familiar educational practices. The second new Hawaii adjusted profile of calculating plus represents a school that may use more new practices but these practices still have no impact on the school's basics assumptions and mode of operation.

Data from Eyal and Inbar's (2003) study determined the effectiveness of the PSEI with the following examinations:

*Reliability* –Cronbach Alpha (split half analysis of samples):

4 items that measure principal proactiveness=Cronbach Alpha of .86

10 items that measure innovativeness=Cronbach Alpha of .92

*Validity* – exploratory factor analysis conducted by the developers: direct oblimin rotated factor loading resulting in two factors: principal proactiveness and innovativeness.

4 items – range from 0.723 to 0.846 for principal proactiveness

10 items – range from 0.504 to 0.869 for innovativeness

The Cronbach Alpha measure for all factors satisfied the criteria set up by Van de Van and Ferry (1980) for reliability tests on instruments aimed at measuring organizational attributes. Construct validity was satisfied using an exploratory principal component factor analysis (Grim & Yarnold, 1997).

### *Materials*

Each school was mailed one packet that contained the following:

- Enough paper PSEI surveys (see Appendix 1 for an example) with attached self-addressed stamped envelopes and with attached consent forms (see Appendix 2 for an example) for each classroom teacher.
- One copy of directions for the distribution of the PSEI for principals (see Appendix 3 for an example). Per the recommendations of the Duquesne's IRB committee, specific directions were created for school principals. These directions were designed to provide specific procedures for the distribution of the PSEI to avoid any negative pressure on teachers, since questions assessing their direct supervisor were included in the PSEI.
- One copy of Duquesne's IRB approval letter (see Appendix 4 for an example).
- One copy of Patricia Hamamoto's, Hawaii's State Superintendent's, approval letter (see Appendix 5 for an example).

### *Procedure*

- January 9, 2008 – Duquesne's IRB approval is granted
- January 21, 2008 – Initial letter sent to Hawaii DOE for research approval
- February 4, 2008 – Received *Application to Conduct Research in Hawaii Public Schools Forms*
- February 10, 2008 – Submitted *Application to Conduct Research in Hawaii Public Schools Forms* to Hawaii DOE's Systems Accountability Office for approval.



- March 7, 2008 - Approval letter received from Hawaii's State Superintendent. The State Superintendent's office sent copies of the approval letter to all elementary school principals.
- March 7 through March 14 – Packets for 111 schools are created
- March 21, 2008 – Packets are mailed and/or delivered to schools
- March 25 through April 18 – Surveys returned and data is collected and compiled
- April 18 through May 7 – Data is analyzed

### *Analysis*

Analysis was conducted for each research question.

#### *Question one.*

How did the level of entrepreneurial organizational characteristics vary in Hawaii and Israel? This question was answered using a chi square test for goodness of fit examination was used to test the following hypothesis:

The level of entrepreneurial organizational characteristics varies according to location: Hawaii and Israel.

#### *Question two.*

How does the level of entrepreneurial organizational characteristics relate to student achievement? This question was answered using a one way ANOVA. The independent variable was entrepreneurial organizational profile and the dependent variable was student achievement. A one-way ANOVA was used to determine the extent of the difference of the means and whether the difference is because of chance. The

research hypothesis that guided this question was: the level of entrepreneurial characteristics is related to student achievement.

*Question 3.*

How did the level of entrepreneurial organizational characteristics relate to different school characteristics: school size, principal years of experience, school socioeconomic level, and island location? This question was first examined using bivariate correlation analysis to determine whether any potential linear relationships existed among the various school factors and entrepreneurial organizational levels. Once potential relationships were identified, further analysis using one way ANOVAs were used to determine the strength and significance of any potential relationships among variables.

## CHAPTER IV

### RESULTS

Of the 3,816 PSEI surveys sent to schools, a total of 488, or 13%, were returned. Because of the threshold of five PSEI surveys needed per sample school, 422 surveys, or 11% were included in the sample data. Those 422 surveys came from a total of 44 schools which met the five survey minimum to qualify as a school in the sample population. The 44 schools in the sample population represented 40% of the targeted 111 public elementary schools. One of the 44 schools had only been open for one year and had no historic achievement or socioeconomic data. Twenty four schools also returned surveys but did not meet the five survey threshold.

The total sample size of 422 respondents provided a margin of error of  $\pm 5\%$  at a 95% confidence level (Watson, 2001). However, the responses were more precisely broken down per school. School size and return rates varied but the overall mean percentage of returned surveys per school was 29%. So a school with the minimum of 20 teachers would likely have had five returned surveys and the largest school with 75 teachers would likely have had 22 returned surveys. The average number of surveys returned per school was 9.5. Seven surveys was the threshold used by Eyal and Inbar (2003) in Israel. Based on the returns per school, the overall sample confidence level and the similarity between the percentages of schools in the sample and the total population, as shown in Table 3, the resultant sample should be representative of the 111 schools in the target population.

Table 3

Number of Sample and Total Population Schools by Island

		Sample Frequency	Sample Percent	Total Population Frequency	Total Population Percent
Valid	Oahu	27	61 %	124	70%
	Maui	6	14 %	14	8%
	Hawaii	8	18 %	24	14%
	Kauai	3	7 %	9	5%
	Total	44	100.0	175 *	

\* Note – the island totals do not equal 175 because 175 includes schools that work with Edison and have less than 20 teachers

The first research question answered related to the two regions: Israel and Hawaii; How did the level of entrepreneurial organizational characteristics vary in Hawaii and Israel? As was mentioned in Chapter 3, the discrepancy was so large that adjusted entrepreneurial profiles were created for the Hawaii sample.

The large discrepancy was apparent from the application of a first chi square test. Table 4 shows the cross tabulation of results from the two regions. The lack of Hawaii representation in the initiating and vigorous entrepreneurial profile categories made comparisons between the two regions difficult, especially since an expected frequency of less than five in a cell can hinder the results of the chi square. Even with this limitation, the chi-square value was found significant,  $\chi^2 (3, N = 184) = 70.382, p = .001$ . Scores of .618 on both the phi coefficient and the Cramer's V indicate that a large effect of the results was based on the geographical region. The large chi square score emphasized the discrepancy between the two regions and led to the rejection of the null hypothesis.

Findings indicated the levels of entrepreneurial organizational characteristics in Hawaii were distributed differently than the sample population from Israel.

Table 4

Crosstabulation: Hawaii or Israel \* Entrepreneurial Profile

Region		Entrepreneurial Profile				Total
		Conservative	Calculated	Initiating	Vigorous	
Hawaii	Count	25	19	0	0	44
	Expected Count	8.1	17.5	14.6	3.8	44
Israel	Count	9	54	61	16	140
	Expected Count	15.2	57.8	50.2	16.7	140
Total	Count	34	73	61	16	184
	Expected Count	34	73	61	16	184

The adjusted Hawaii entrepreneurial profiles were based on the conservative results of the PSEI scores. To provide some level of comparison with the four categories used in the Israel sample, the mean PSEI scores for the Hawaii sample were examined and found to have a relatively normal distribution ( $M = 3.97$ ,  $SD = .76$ ),  $t(34.820)$ ,  $p = .001$  (two-tailed) as shown in Figure 1. Using the standard deviation, entrepreneurial profiles were created as specified in Table 2 on page 50.

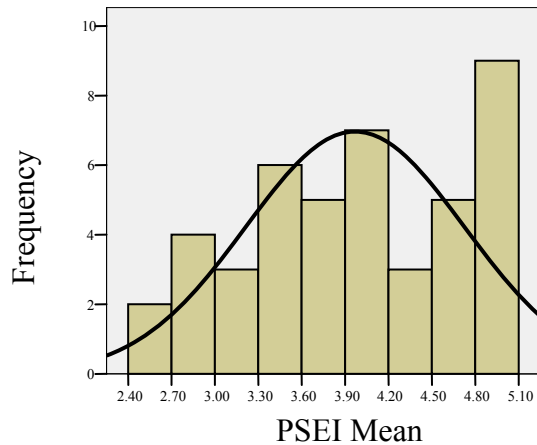


Figure 1. Hawaii Adjusted PSEI Mean Scores, ( $M = 3.97$ ,  $SD = .76$ )

Even with the adjusted Hawaii profiles the rejection of the null hypothesis was determined for the first research question. A second cross tabulation and chi square was completed using the Hawaii adjusted entrepreneurial profiles. Keeping in mind that the categories were not comparable because the Israel profiles were less conservative than the Hawaii profiles, the second chi square was completed to see if the PSEI did result in normal distributions in both geographical areas. Table 5 shows the results of the cross tabulation and Figure 2 shows the distribution of Hawaii adjusted profiles. While a more normal distribution was found the significant chi-square,  $\chi^2 (3, N = 184) = 21.5$ ,  $p = .001$  and phi coefficient and Cramer V of .342 still indicated that region had an impact on PSEI results.

Table 5

Crosstabulation: Hawaii or Israel \* Hawaii Adjusted Entrepreneurial Profile

Region		Entrepreneurial Profile				Total
		Conservative	Calculated	Initiating	Vigorous	
Hawaii	Count	11	22	5	6	44
	Expected Count	4.8	18.2	15.8	5.3	44
Israel	Count	9	54	61	16	140
	Expected Count	15.2	57.8	50.2	16.7	140
Total	Count	20	76	66	22	184
	Expected Count	20	76	66	22	184

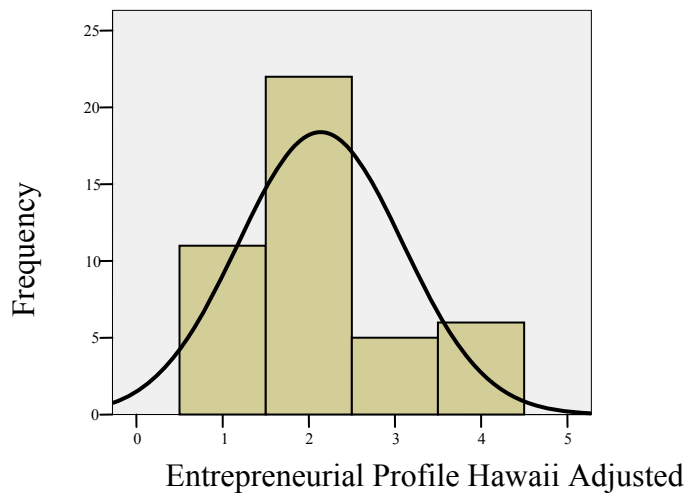


Figure 2. Hawaii Adjusted Entrepreneurial Profiles, ( $M = 2.14$ ,  $SD = .96$ )

The second research question related to the relationship between entrepreneurial level and student achievement; how did the level of entrepreneurial organizational characteristics relate to student achievement? Student achievement data from the Hawaii State Assessment (H.S.A.) was gathered from all sample schools. Eleven third through

fifth grade reading and math proficiency scores from the last four years were used to create an overall H.S.A. mean for each school. One school from the sample had no historical data because it opened in 2007. Conducting an ANOVA to compare the Hawaii adjusted entrepreneurial profiles with student achievement resulted in no significant relationship between the two variables,  $F(4, 38) = .585, p = .676$ . Figure 3 emphasizes a non-linear relationship between entrepreneurial profile and H.S.A. means and graphically shows that even with the more normally distributed Hawaii adjusted profiles no relationship was evident.

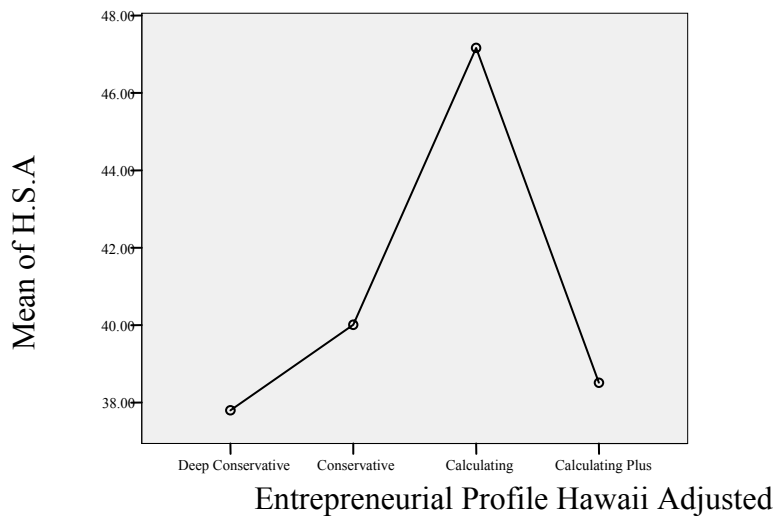


Figure 3. Means of H.S.A. Scores by Hawaii Adjusted Entrepreneurial Profile

The third research question had to do with the relationship between entrepreneurial characteristics and other school characteristics; how did the level of entrepreneurial organizational characteristics relate to different school characteristics? To examine the potential relationship with student achievement and other school characteristics, a bi-variant Pearson correlation was conducted and is shown in Table 6. Based on the results of the correlations, insignificant relationships were found with both



the original entrepreneurial profiles and the adjusted Hawaii profiles in all areas except principals' years of experience. Another significant relationship unrelated to entrepreneurial characteristics was between school socioeconomic level and student achievement measured by H.S.A. scores.

The relationship between principal's experience and Hawaii entrepreneurial profile was a positive correlation of .353,  $p = .05$  (two-tailed). The stronger of the two evident relationships was between H.S.A. scores and socioeconomic level. A strong negative correlation was evident with both the school percentage of free and reduced lunch students and the nominal categories of school socioeconomic rating, which was based on the percentage of free and reduced lunch students. Overall H.S.A. scores had a correlation of  $-.844$ ,  $p = .01$  (two-tailed), with percentage of free and reduced lunch students and a correlation of  $-.819$ ,  $p = .01$  (two-tailed), with school socioeconomic level.

Further analysis using ANOVA for both relationships confirmed the findings of the Pearson  $r$  for the H.S.A. and socioeconomic relationship, however the relationship between principal's years of experience and Hawaii adjusted entrepreneurial profile was limited. The limitation was because the group of principals with more than twenty years of experience had fewer than two cases. An ANOVA between principals years of experience and PSEI mean scores resulted in an  $F(4, 39) = 1.004$ ,  $p = .417$ , leaving the results open to speculation of chance. A second ANOVA was conducted examining Hawaii adjusted profiles and the actual number of years of principal experience rather than nominal categories representing ranges of experience. The resulting  $F(4, 39) = 1.765$ ,  $p = .169$ ; was again not a strong relationship. A linear relationship was evident

Table 6

Bi-variant Correlation – for research questions two and three

		Island	Principal Experience	School Size - Number of Teachers	Percentage of Free/Reduced Lunch	PSEI Mean	Entrepreneurial Profile	HSA Overall (Math & Reading) Percent Proficient	Entrepreneurial Profile Adjusted	School Socioeconomic Level
Island	Pearson Correlation Sig. (2-tailed) N	1	-.238 .120 44	.162 .299 43	.127 .417 43	-.160 .299 44	-.034 .829 44	-.106 .500 43	-.224 .143 44	.140 .370 43
Principal Experience	Pearson Correlation Sig. (2-tailed) N	-.238 .120 44	1 .084 43	.084 .592 43	.117 .455 43	.240 .116 44	.127 .411 44	-.088 .573 43	.353* .019 44	.079 .613 43
School Size - Number of Teachers	Pearson Correlation Sig. (2-tailed) N	.162 .299 43	.084 .592 43	1 .084 43	-.050 .751 42	-.058 .712 43	-.263 .088 43	-.157 .322 42	-.117 .456 43	-.045 .779 42
Percentage of Free/Reduced Lunch	Pearson Correlation Sig. (2-tailed) N	.127 .417 43	.084 .592 43	-.050 .751 42	1 .022 43	-.099 .529 43	.022 .889 43	-.844* .000 43	-.080 .612 43	.957* .000 43
PSEI Mean	Pearson Correlation Sig. (2-tailed) N	-.160 .299 44	.084 .592 44	-.058 .712 43	1 .529 43	.1 .529 44	.839* .000 44	.144 .356 43	.837* .000 44	-.158 .312 43
Entrepreneurial Profile	Pearson Correlation Sig. (2-tailed) N	-.034 .829 44	.127 .411 44	-.263 .088 43	.022 .889 43	.839* .000 44	1 .000 44	.076 .627 43	.671* .000 44	-.062 .695 43
HSA Overall (Math & Reading) Percent Proficient	Pearson Correlation Sig. (2-tailed) N	-.106 .500 43	-.088 .573 43	-.157 .322 42	-.844* .000 43	.144 .356 43	.076 .627 43	1 .000 43	.085 .588 43	-.819* .000 43
Entrepreneurial Profile Adjusted	Pearson Correlation Sig. (2-tailed) N	-.224 .143 44	.353* .019 44	.019 .456 43	-.080 .612 43	.837* .000 44	.671* .000 44	.085 .588 43	1 .000 44	-.151 .333 43
School Socioeconomic Level	Pearson Correlation Sig. (2-tailed) N	.140 .370 43	.079 .613 43	-.045 .779 42	.957* .000 43	-.158 .312 43	-.062 .695 43	-.819* .000 43	-.151 .333 43	1 43

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

between the two variables as shown in Figure 4, however two few cases and the ANOVA results make a conjecture of a significant relationship difficult.

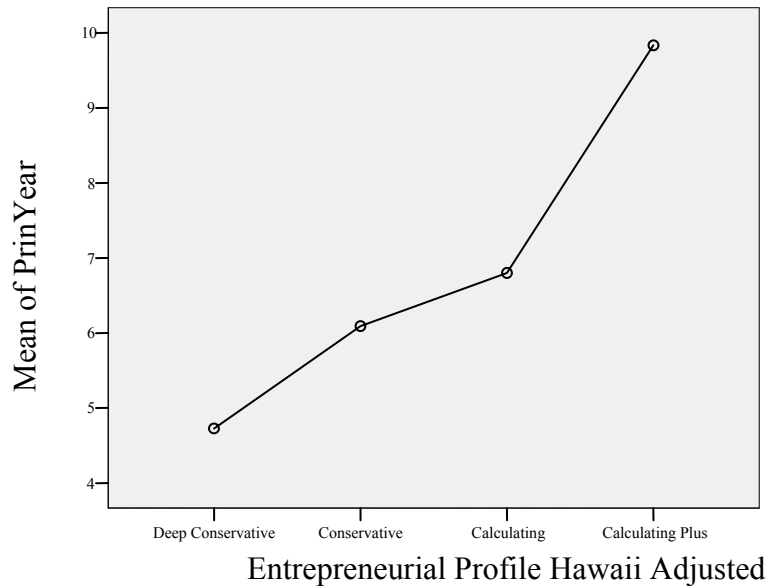


Figure 4. Mean of Principal Years by Hawaii Adjusted Entrepreneurial Profile

Conversely the relationship between H.S.A. scores and socioeconomic level was confirmed by additional statistical analysis using an ANOVA,  $F(4, 38) = 20.373$ ,  $p = .001$ . The nominal grouping of sample schools into ranges of socioeconomic level based on their overall percentage of free and reduced lunch students was compared to the schools overall H.S.A. mean score. The negative correlation between a school's socioeconomic level and overall H.S.A. scores was confirmed from the Pearson  $r$  and provides a stark graphical representation as seen in Figure 5. Schools with a high percentage of free and reduced lunch students had lower achievement scores as measured by the H.S.A.

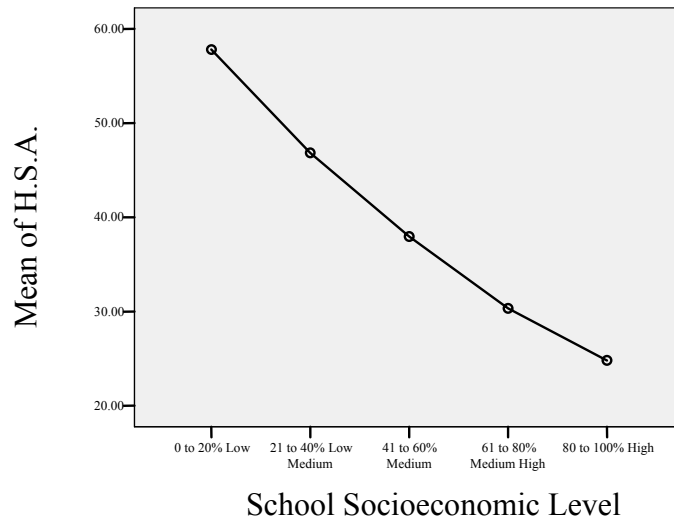


Figure 5. Mean overall H.S.A. Scores by Socioeconomic Level

Although the bi-variant correlation found no significance, both the PSEI mean and Hawaii adjusted entrepreneurial profiles had negative correlations with sample schools' socioeconomic measures. The strongest of the four potential relationships was between the PSEI mean and schools' socioeconomic level with a Pearson  $r$  of  $-.158$ ,  $p = .312$ . The school that has only been in existence for one year had no historic socioeconomic data resulting in an  $n$  of 43. Again an ANOVA was conducted to further explore the potential relationship. Like the previous comparison of principal's years of experience, limited numbers of schools in each category led to the circumspect results,  $F(4, 38) = .585$ ,  $p = .676$ . In two of the five categories, highest and lowest level of free and reduced students, only three schools were represented. The resulting  $F$  value confirmed the weak relationship found in the Pearson  $r$  and graphically shown in Figure 6. While the graphic does present a linear relationship, limitations of numbers in socioeconomic categories and the resulting insignificance are important considerations. It is interesting to

note the negative correlation with both achievement and entrepreneurial means and socioeconomic level.

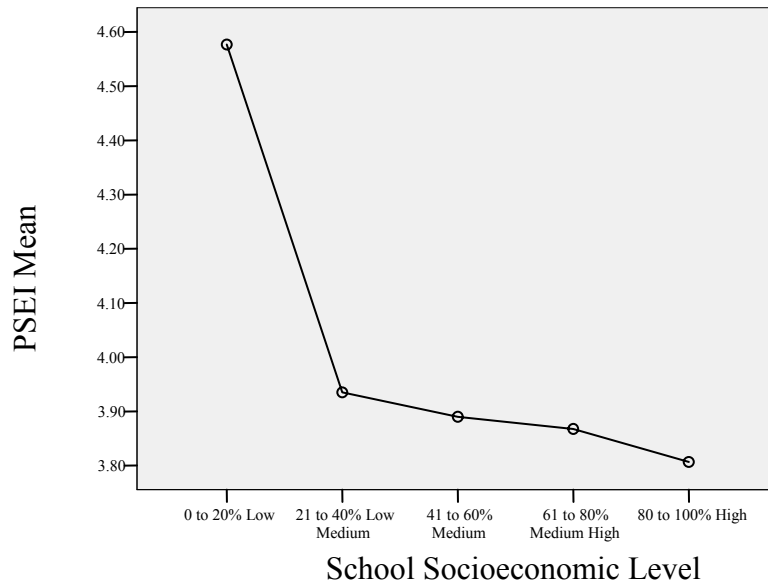


Figure 6. PSEI Mean by Socioeconomic Level

## CHAPTER V

### DISCUSSION

#### *Major Findings*

The results from the Hawaii sample suggested that low levels of entrepreneurial characteristics dominate the state and lead to the conjecture that schools in Hawaii are very conservative. This high level of conservative organizational profiles is further supported by the suggestion from the results that more years of principal experience lead to a more entrepreneurial approach. A Hawaii school organizational framework where principals lead may be a conservative web that takes years of experience to learn how to navigate. What was not found included a specific tie between entrepreneurial organizational characteristics and student achievement. In addition, no relationships were found among entrepreneurial organizational characteristics and the school characteristics of size, socioeconomic level, and location.

If bureaucratic navigation is a prerequisite for Hawaii principals, training in bureaucratic navigation starts early, especially for interested candidates from outside the state. The principal development system in Hawaii is characterized by an insular approach to recruitment. As the Hawaii Department of Education website clearly states (2008), “the certification requirement limits our ability to actively recruit qualified educational administrators from other public or private schools throughout the nation”. This acknowledged limitation is not the only constricting recruitment factor. New administrators must complete a state certification process that is developed and implemented by the Hawaii Department of Education. While other states have specific course and experience prerequisites, a variety of university programs are usually

available to provide learning experiences suited to the needs of the individual. Aspiring administrators in Hawaii are not afforded such a wide range of development choices. Additionally, aspiring Hawaii administrators must serve as a vice principal for a minimum of two years. Two years of on the job training provides a deep level of learning; however the arduous nature of a two year apprenticeship may limit the pool of candidates who have proactive and innovative natures.

Again, it is important to acknowledge the limitations of the years of principal's experience relationship to entrepreneurial organizational characteristics. While a correlation was found, the small sample size representation in entrepreneurial profile categories limited significant findings. A larger sample size and the triangulation of data through qualitative interviews with prospective and experienced administrators may strengthen these tenuous findings. However, with an explicit focus in Hawaii on site based management, further research about the effects of principal's years of experience, the Hawaii administrator certification program, and recruitment of prospective candidates could lead to systemic changes; changes with the potential to increase entrepreneurial organizational characteristics, which may improve organizational results. Improved organizational results similar to those found in high poverty urban school settings (Chapman, 2001; Carter 2001) where a suggested link between entrepreneurial characteristics and student achievement has been postulated.

Unfortunately, the strongest significant finding was found in a vital aspect of the schools, their results, or stated another way, the school's student achievement. Although not strongly related by significant statistical findings, the significant relationship between high socioeconomic level and low achievement results was mirrored in the relationship

between high socioeconomic level and low entrepreneurial characteristics. This leads to speculation that schools with the poorest students are not producing achievement results and that entrepreneurial characteristics, principal proactiveness and innovativeness, may be absent from improvement efforts. Obviously, the absence of entrepreneurial characteristics was further supported by the predominance of conservative entrepreneurial profiles from the Hawaii sample of schools.

The low level of achievement results in Hawaii and predominance of conservative entrepreneurial characteristics results is antithetical to the state's goal of building autonomy through increased site based management. Principals in Hawaii do control a large amount of their budget and are charged with many duties that are typically devoted to a more centralized school district. For example, curricular program decisions, instructional practices, hiring of personnel, and assessment choices are predominantly made at the individual school level and are funded by a per student allocation from the state. So if a school has 100 students and the student weighted formula is \$7,000 per student, the school's budget is \$700,000. From that pool of money, the majority of organizational and programmatic decisions are made. This simplistic budget example is further complicated by grant money influxes, special education funding, and federal allocations of funds; however, the main operating premise in Hawaii is individual school autonomy. School autonomy leads to schools in the same area having very dissimilar programs. This variety is meant to meet locale needs and promote success, however, as achievement scores and entrepreneurial scores indicate; results are lacking. This situation is not unique to Hawaii and has been found in studies of schools in England and Israel where decentralization is put into place but evidence of resulting transformational



improvements and increased achievement results are lacking (Boyett, 1997; Eyal & Inbar, 2003).

As with the findings concerning principals' years of experience, the limitations of the sample are evident in comparisons between student achievement and entrepreneurial characteristics. Even with the adjusted Hawaii profiles' normal distribution, insignificance resulted from low representation in nominal categories. Additional school profiles may strengthen findings. Additionally, the triangulation of quantitative results with qualitative interviews may solidify conjectures between entrepreneurial profiles and the school organization's results as measured by student achievement.

A suggestion first proposed by Eyal and Kark (2004) may also strengthen findings. Their suggestion to compare public and private schools may lead to discrepancies in both entrepreneurial characteristic and resulting student achievement levels. This next step could provide more insight into how improvement gains are related to various organizations and their entrepreneurial characteristics.

#### *General Implications of Findings*

Both of the findings discussed are grounded in results that indicate a deeply conservative entrepreneurial climate among the Hawaii sample schools. The need to create an adjusted Hawaii entrepreneurial profile that is very conservative, the correlation between more years of principal experience and a higher level of entrepreneurial characteristics, and the significant evidence showing a persistent socioeconomic achievement gap could lead to speculation that organizational transformation has been limited and could be hindered by the deeply conservative entrepreneurial climate. While a conservative organizational climate does promote a cautionary, safe environment

devoid of risks that could potentially harm the school learning environment, the climate also tends to limit any type of change. Hawaii's consistent low student achievement ranking among other states may or may not have to do with this conservatism. However, without further research garnering a wider variety of schools, some conservative some more entrepreneurial, determining whether the overall conservative culture is limiting growth becomes difficult to ascertain.

### *General Limitations*

As was highlighted during discussions of findings, representation among the various entrepreneurial categories limited significant results. While weak relational trends were noted between years of principal experience and entrepreneurial profile and between entrepreneurial profile and socioeconomic level, small sample size representation in nominal categories limited the significance of findings. A larger more diverse sample may strengthen results and provide a clearer direction for future research.

Another limitation related to size was the overall depth of the PSEI survey. Having two domains determined by 14 questions, may have not provided the depth of information needed for significant conjectures and may have lead to the preponderance of conservative results in the Hawaii sample. Recent research examining non profit organizations and entrepreneurial orientations incorporated four domains using a 15 Likert item questionnaire (Morris et al., 2007). Another entrepreneurial measure used in for profit environments examines six domains using a forced choice Likert scale with 22 items (Brown et al., 2001). Perhaps triangulating data using a combination of measurement tools or a synthesis of the various tools would broaden the domains examined and lead to stronger conjectures about the role of entrepreneurial characteristics

in schools. Replication of Eyal and Inbar's (2003) initial qualitative study to determine domains related to public schools would be needed to properly ground the development of a tool specific to schools.

### *Future Directions*

As additional studies emerge that examine entrepreneurial characteristics in the non profit sector, results continue to suggest a connection between high levels of entrepreneurial characteristics and organizational results (Morris et al., 2007). These results mirror the in-depth findings among for profit organizations that continue to surface (Wilklund, J. & Shepherd, D., 2005). However, as was noted in the first two chapters of this study, research about entrepreneurial characteristics and non profit organizations is in its nascent stages, with research into schools in what could be termed a neo-nascent stage. With the accelerated organizational results demanded by N.C.L.B legislation, perhaps acceleration among studies that examine school entrepreneurial characteristics and performance are warranted.

Specific research directions based on this study's results could also be accelerated to examine potential pockets for organizational growth. For example, if larger numbers of principals with experience of 20 plus years are included in a study and a similar relationship to higher levels of entrepreneurial organizational characteristics is found, then experienced principal populations could be targeted for more in-depth study to determine how they develop a more entrepreneurial approach. These findings could then inform the training of future principals. The need for a more diverse sample population could be accelerated by including various types of schools in the sample population. If private, charter, and other specialty schools are included in future research and

subsequent differences are noted, then various types of schools could learn and potentially improve based on findings. Finally, accelerating studies which triangulate results using other entrepreneurial measures or qualitative interviews could strengthen findings and provide more precise future directions.

A more precise measuring tool could also be developed to enhance future results. As was discussed earlier, two entrepreneurial organizational domains were explored using the PSEI. Perhaps a measurement tool that included more domains would ensure consistent results among various samples. In addition, tools used to measure entrepreneurial leaders could be modified to perhaps help strengthen organizational measurements, or even triangulate data to strengthen findings.

### *Summary*

This study's three research questions all stem from an overall proposition explored in the literature review. The proposition explored was the influence entrepreneurial organization levels have on organizational results and characteristics. An even more global proposition explored was that entrepreneurial characteristics among individuals and organizations are a future need which could be nurtured in schools. Based on the study results, scant levels of entrepreneurial organizational characteristics are evident in Hawaii, limiting any potential influence on organizational results, organizational characteristics, and connections to future needs. However, more in-depth studies with larger samples and various measurement tools could strengthen findings and perhaps lead to stronger rationales for the incorporation of entrepreneurial organizational characteristics in schools.

## REFERENCES:

- Adler, J. (1982, July). The Paideia proposal: Rediscovering the essence of education. *American School Board Journal*.
- Aldrich, H. & Zimmer, C. (1986). Entrepreneurship through social networks. *The Art and Science of Entrepreneurship*. Cambridge, MA: Ballinger.
- Barber, M (2004). *Courage and the lost art of motorcycle maintenance*. London: Consultants Conference.
- Bennett, W. et al.. (1998). A nation still at risk. *Policy Review*. July/August.
- Bergland, K. & Holmgren C. (2006, May). *At the intersection of entrepreneurship education policy and practice, on conflicts, tensions, and closures*. Paper to be presented at the 14<sup>th</sup> Nordic Conference on Small Business Research, Stockholm, Sweden.
- Bilen, S., Kisenwether, E., Rzasz, S. & Wise, J. (2005). Developing and assessing students' entrepreneurial skills and mind set. *Journal of Engineering Education*. 94(2), pp. 233-243.
- Borman, G., Hewes, G., Overman, L., & Brown, S. (2002). Comprehensive school reform and student achievement; A meta-analysis. (Center for Research on Education of Students Placed at Risk, CRESPAR; U.S. Department of Education). Johns Hopkins University, MD: Publication Department, CRESPAR/Johns Hopkins University.
- Bowerman, J. (2003). Leadership development through action learning: An executive monograph. *International Journal of Health Care Quality Assurance*. 16(6). pp. 6-13.

- Boyett, I (1997). The public sector entrepreneur – A definition. *International Journal of Entrepreneurial Behavior and Research*. 3(2), pp. 77-92.
- Brown, T., Davidsson, P., & Wiklund, J. (2001). An operationalization of Stevenson's conceptualization of entrepreneurship as opportunity based firm behavior. *Strategic Management Journal*. 22(10), pp. 953-968.
- Byers, T., Kist H., Sutton, R. (1997). Characteristics of the entrepreneur: Social creatures, no solo heroes. *The Handbook of Technology Management*. Boca Raton: CRC Press LLC.
- Byrne, J.P. (2005). [Transcriptions mini study 05] Unpublished raw data.
- Carter, S. (2001). *No excuses: Lessons from 21 high-performing, high poverty schools*. Washington: The Heritage Foundation.
- Chapman, C (2004). Leadership for improvement in urban and challenging contexts. *London Review of Education*. 2 (2), pp. 95 -108.
- Coulson, A. (2003, May). Implementing "Education for All": Moving from goals to action. *Presented at The 2<sup>nd</sup> Incontrol Internazionale Milanoliberal, Milan, Italy*, (ERIC document number UD035844), pp. 1-26.
- Covin, J. & Slevin, D. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*. 16(1), pp. 75-87.
- Crook, C. (2007, March). The ten cent solution. *The Atlantic*. 299 (2), pp. 38-39.
- Davidsson, P., Low, M., & Wright M. (2001). Editor's introduction: Low and MacMillan ten years on; Achievements and future directions for entrepreneurship research. *Entrepreneurship Theory and Practice*, pp. 5-15.

- Editors (2004, November 24). Characteristics of private schools; Results from the 2001-2002 private school universe survey. [www.nces.ed.gov](http://www.nces.ed.gov) *Education Week*.
- Elmore, R. (2003). *Knowing the right thing to do: School improvement and performance-based accountability*. Washington, DC: NGA Center for Best Practices.
- European Commission (2002). Final report of the expert group on education and training for entrepreneurship education, Brussels: European Commission.
- Eyal, O & Inbar, D. (2003). Developing a public school entrepreneurship inventory; Theoretical conceptualization and empirical examination. *International Journal of Entrepreneurial Behavior and Research*. 9(6), pp. 221-244.
- Eyal, O. & Kark, R. (2004). How do transformational leaders transform organizations? A study of the relationship between leadership and entrepreneurship. *Leadership and Policy in Schools*.3(3), pp. 211-235.
- Fowler, F. (2004). *Policy studies for educational leaders*. New Jersey: Pearson Education, Inc.
- Fullan, M. (2005). *Leadership and sustainability: System thinkers in action*. California: Corwin Press.
- Friedman, T. (2005). *The world is flat: A brief history of the twenty first century*. New York: Farrar, Straus, and Giroux.
- Gendron, G. (2004). Practitioner's perspective on entrepreneurial education: An interview with Steve Case, Matt Goldman, Tom Golisano, Geraldine Laybourne, Jeff Taylor, and Alan Webber. *Academy of Management Learning and Education*. 3(3), pp. 302-314.

- Grim, L. & Yardold, P. (1997). *Reading and understanding multivariate statistics*. Futura: Easton Publishing Services.
- Haberman, M. & Dill, V. (1999). Selecting star principals for schools serving children in poverty. *Instructional Leader*. 12(1), pp. 1-5.
- Hausman, C. (2000). Principal role in magnet schools: transformed or entrenched? *Journal of Educational Administration*. 38(1), pp. 25-46.
- Hawaii Department of Education Website. Retrieved May 10, 2008, from [http://doe.k12.hi.us/personnel/eo\\_schadmin\\_nondoe.htm](http://doe.k12.hi.us/personnel/eo_schadmin_nondoe.htm)
- Henderson R. & Robertson M. (2000). Who wants to be an entrepreneur? Young adult attitudes to entrepreneurship as a career. *Career Development International*. 5(6), pp. 279-290.
- Herszenhorn, D. (2006, April 9). Yet more ways to fix schools. *The New York Times*, pp. A23, A28.
- Hindle, K. & Cutting N. (2002). Can applied entrepreneurship education enhance job satisfaction and financial performance? An empirical investigation in the Australian pharmacy profession. *Journal of Small Business Management*. 40(2), pp. 162-167.
- Holt, J. (1974). *Escape from childhood*. E.P. Dutton, 1974.
- Jones, K. & Tullous, R. (2002). Behaviors of pre-venture entrepreneurs and perceptions of their financial needs. *Journal of Small Business Management*. 40(3), pp. 233-249.
- Kalu, N. (2003). Entrepreneurs or conservators? Contractarian principles of bureaucratic performance. *Administration and Society*. 35(5), pp. 539-563.



- Kobrak, P. (1996). The social responsibilities of a public entrepreneur. *Administration and Society*, Vol. 28(2), pp. 205-237.
- Kreiser, P., Marino, L. & Weaver, K. (2002). Assessing the psychometric properties of the entrepreneurial orientation scale: A multi country analysis. *Entrepreneurship theory and practice*. 26(4), pp. 71-95
- Kuratko, D. F. (2007). Entrepreneurial leadership in the 21<sup>st</sup> century. *Journal of Leadership and Organizational Studies*. 13(4), pp. 2-11.
- Kuratko, D.F. & Hodgetts (2007). *Entrepreneurship: theory, practice*. 7<sup>th</sup> Edition. Mason, OH: Thomson/South Western Publishing.
- Lo, J. (2005). The influence of leadership style on school's development into learning organizations. *Social Sciences*. 1(47), pp. 16-25.
- Lumpkin G. & Dess G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*.21(1), p.135
- Lumpkin G. & Dess G. (2005). The role of entrepreneurial orientation in stimulating corporate entrepreneurship. *Academy of Management Executive*, 19(1), pp. 147-156.
- Lyon, D., Lumpkin, G., & Dess, G. (2000). Enhancing entrepreneurial orientation research: Operationalizing and measuring a key strategic decision making process. *Journal of Management*. 26(5), pp. 1055-1085.
- Marzano, R. (2003). *What works in schools: Translating research into action*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Mautner, G. (2005). The entrepreneurial university: A discursive profile of higher education. *Critical Discourse Studies*. 2(2), pp. 95-120.

- Merriam-Webster. Retrieved May 19, 2008 from, <http://www.merriam-webster.com/>
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*. 29(7), pp. 221-236.
- Morris, M, Coombes, S, Schindehutte, M, & Allen, J (2007). Antecedents and outcomes of entrepreneurial and market orientations in non-profit context: Theoretical and empirical insights. *Journal of Leadership and Organizational Studies*. 13(4), pp. 12-39.
- Morrison, A. (2001). Entrepreneurs transcend time: A biographical analysis. *Management Decision*. 39(9), pp. 784-791.
- Nicholson L. & Anderson A. (2005). News and nuances of the entrepreneurial myth and metaphor: Linguistic games in entrepreneurial sense-making and sense giving. *Entrepreneurship Theory and Practice*. 29(2), pp.153-172.
- Noer, D (1997). *Breaking free: A prescription for personal and organizational change*. San Francisco, CA: Jossey –Bass.
- Noll, J (2004). *Taking sides, clashing views on controversial educational issues*. Connecticut: McGraw Hill/Dushkin.
- Nunn, L. & Ehlen, C. (2001). Developing curricular with a major emphasis in entrepreneurship – An accounting perspective. *The Journal of Applied Business Research*. 17(4), pp. 1-8.
- O’Gorman, C. & Doran R. (1999). Mission statements in small and medium sized businesses. *Journal of Small Business Management*. 37(4), pp. 59-66.
- Ouchi, W (2003), *Making schools work*. New York: Simon & Schuster.
- PAIU...About Us. Retrieved March 25, 2007, from <http://www.paiu.org/AboutUs.aspx>

- Peck, K. (1991). Before looking for the gas pedal: A call for entrepreneurial leadership in American schools. *Education*. 111(4), pp. 516-521.
- Peterson, P. (2003). Fanatical secularism. *Education Next*, Winter.
- Reynolds, P. & White, S. (1997). *The entrepreneurial process*. Greenwich, CT: Greenwood Press.
- Schmoker, M. (2004). Tipping point: From feckless reform to substantive instructional improvement. *Phi Delta Kappan* 85(6), pp. 424-432.
- Schumpeter, J.A. (1934). *The theory of economic development*. Cambridge, MA: Harvard University Press.
- Senge, P. (2006). *The fifth discipline: The art and practice of the learning organization*. New York: Doubleday.
- Shane, S. & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*. 25(1), pp. 217-226.
- Stokes, D. (2002). Entrepreneurial marketing in the public sector: The lessons of headteachers as entrepreneurs. *Journal of Marketing Management*. 18 (3/4), pp. 397-414.
- Steyaert, C. and Katz, J. (2004). Reclaiming the space of entrepreneurship in society: geographical, discursive and social dimensions. *Entrepreneurship and Regional Development*, 16,179-196.
- Swiercz, P & Sharon, L. (2002). Entrepreneurial leadership in high-tech firms: A field study. *Leadership and Organizational Development Journal*. 23(7), pp. 380-389.

- Terry, L.D. (1993). Why should we abandon the misconceived quest to reconcile public entrepreneurship with society. *Public Administrative Review*. 53 (4), pp. 393-395.
- Tooley, J. (1999, September). A meeting of educational entrepreneurs. *Economic Affairs*. 19(3), p. 53.
- Tooley, J. (2000). *The global education industry: Lessons from private education in developing countries*. London: The Institute of Economic Affairs.
- Tooley, J. (2000, January). Big profits mean better schools. *New Statesman*. 13 (590), p. 25.
- Tooley, J. (2001, September). If India can, why can't we. *New Statesman*. 14(673). p. 33.
- Tooley, J. (2003, March). Private schools for the poor: An update. *Economic Affairs*. 23(1), p. 56.
- Tooley, J. & Dixon, P. (2005). Is there a conflict between commercial gain and concern for the poor? Evidence from private schools for the poor in India and Nigeria. *Economic Affairs*. 25(2), pp. 20.
- Tough, P. (2006, November 26). What it takes to make a student. *The New York Times Magazine*, pp. 44-77.
- Thornburg, D. (2002). *The new basics: Education and the future of work in the Telematic age*. Virginia: ASCD Publications.
- Tucker, I. (1988). Entrepreneurs and public-sector employees: The role of achievement and motivation and risk in occupational choice. *Journal of Economic Education*. Summer 1988, 19(3), pp. 259-268.

- Troy, F. (1998). The myth of our failed school education system. *The School Administrator*.
- Van de Ven, A. & Ferry, D. (1980). *Measuring and assessing organizations*. New York: Wiley.
- Watson, Jeff (2001). *How to Determine a Sample Size: Tipsheet #60*, University Park, PA: Penn State Cooperative Extension.  
Available at: <http://www.extension.psu.edu/evaluation/pdf/TS60.pdf>
- Wilklund, J. & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*. 20(1), pp. 71-91.
- Xu, H. & Ruef, M. (2004). The myth of the risk-tolerant entrepreneur. *Strategic Organization*. 2(4), pp. 331-376.

# APPENDIX

## PSEI SURVEY

**PLEASE – DO NOT WRITE YOUR NAME ON THIS SURVEY**

School Number:

Returned Number:

PSEI – Questionnaire on the Courses of Action in School

Used by Permission – Dr. Ori Eyal – 9/20/05

**Directions:**

This questionnaire contains statements describing the courses of action in your school in the last two years only.

Circle the degree to which each statement characterizes what took place in your school.

Below is the scale you should use. For each statement please indicate only one response.

Very strongly disagree	Strongly disagree	Disagree	Sometimes agree & sometimes disagree	Agree	Strongly agree	Very strongly agree
1	2	3	4	5	6	7

Remember that the purpose of this research is to characterize all the courses of action in the school, and therefore we ask that you not refer to one incident, but rather to the overall pattern that characterizes your school.

For example, if the statement is as follows:

1 – A great number of innovations were implemented in our school in the last two years – 1 2 3 4 5 6 7

I) If there have been a great many innovations in the last two years, virtually non-stop, the appropriate response would be 7 (very strongly agree).

II) If there have been many innovations in the last two years, the appropriate response would be 6 (strongly agree).

III) If innovations have been implemented in the last two years, the appropriate response would be 5 (agree).

IV) If one or two innovations have been implemented here and there, and no regular pattern has emerged, then the appropriate response would be 4 (sometimes agree & sometimes disagree).

V) If there have only been ideas for innovativeness and nothing has been implemented, then the appropriate response would be 3 (disagree).

VI) If there weren't even ideas for innovativeness, the appropriate response would be 2 (strongly disagree).

VII) If nothing was done and everything remained the same, and there is almost no chance that anything will happen, the appropriate response would be 1 (very strongly disagree).

Please do not consider only one example, and try to take into account all of the courses of action that have been implemented in the school and characterize the most common pattern in your school.

- 
1. TURN OVER FOR THE SURVEY
  2. RETURN IN THE ATTACHED SELF ADDRESSED STAMPED ENVELOPE- PLEASE DO NOT INCLUDE YOUR NAME ON THE RETURN ENVELOPE
  3. PLEASE SEND BY **APRIL 11th**

## PSEI SURVEY (continued)

Questionnaire - Courses of Action in School – Circle the number to indicate your response							
Use this scale when giving your response	Very strongly disagree	Strongly disagree	Disagree	Sometimes agree & sometimes disagree	Agree	Strongly agree	Very strongly agree
	1	2	3	4	5	6	7
1. <u>A great number of innovations</u> were implemented in our school in the last two years.							1 2 3 4 5 6 7
2. The school principal <u>has shown great initiative</u> in the development of ideas and activities in our school.							1 2 3 4 5 6 7
3. The innovations implemented in the last two years <u>have caused a turnaround in our school's courses of action.</u>							1 2 3 4 5 6 7
4. Our school principal <u>exhibits great initiative qualities.</u>							1 2 3 4 5 6 7
5. In the last two years our school has implemented <u>many activities that did not exist previously.</u>							1 2 3 4 5 6 7
6. The innovations that have been implemented during the last two years <u>have led to an overall, system-wide change in our school.</u>							1 2 3 4 5 6 7
7. In the last two years our school has implemented <u>a great number of activities that did not exist previously.</u>							1 2 3 4 5 6 7
8. <u>Innovations are a central factor</u> in the life of our school.							1 2 3 4 5 6 7
9. <u>The innovations implemented in the last two years have led to a significant and substantial change in the guiding assumptions of our school.</u>							1 2 3 4 5 6 7
10. <u>Many</u> of the activities that characterize our school are the direct result of the principal's initiative.							1 2 3 4 5 6 7
11. The school principal <u>exhibits no initiative quality</u> in his actions.							1 2 3 4 5 6 7
12. In the last two years a <u>great many innovations have been</u> implemented in our school.							1 2 3 4 5 6 7
13. In our school there is a <u>tendency to implement new courses of action.</u>							1 2 3 4 5 6 7
14. The innovations implemented in the last two years <u>have radically changed the school.</u>							1 2 3 4 5 6 7

The PSEI Copyright 2002 – Eyal & Inbar

## CONSENT TO PARTICIPATE



Duquesne University  
Institutional Review Board  
Approval Date: January 8, 2008  
Expiration Date: January 9, 2009

# DUQUESNE UNIVERSITY

600 FORBES AVENUE ♦ PITTSBURGH, PA 15282

### CONSENT TO PARTICIPATE IN A RESEARCH STUDY

- TITLE:** Entrepreneurial Organizational Characteristics in Schools: Its Relationship to School Success
- INVESTIGATOR:** J. Patrick Byrne  
91-2031 Luahoana Street  
Ewa, HI 96706  
808-744-1877
- ADVISOR: (if applicable):** Dr. James E. Henderson  
School of Education/Interdisciplinary Doctorate Program for Educational Leaders  
412-396-4880
- SOURCE OF SUPPORT:** This study is being performed as partial fulfillment of the requirements for the Ed.D degree in Educational Leadership at Duquesne University.
- PURPOSE:** You are being asked to participate in a research project that seeks to investigate how the level of entrepreneurial organizational characteristics relates to school success. You will be asked to complete an anonymous fourteen question survey and send it to the investigator via the self-addressed stamped envelope.
- These are the only requests that will be made of you.
- RISKS AND BENEFITS:** There are no risks greater than those encountered in everyday life. Your participation will be a benefit to the continuing study of how school level characteristics relate to schools.
- COMPENSATION:** There is no compensation for your participation. However, participation in the project will require no monetary cost to you. An envelope is provided for return of your response to the investigator.
- CONFIDENTIALITY:** Your name will never appear on any survey or research instruments. No identity will be made in the data analysis. Your response(s) will only appear in statistical data summaries. All materials will be destroyed at the completion of the research.



## CONSENT TO PARTICIPATE (continued)

- RIGHT TO WITHDRAW:** You are under no obligation to participate in this study. You are free to withdraw your consent to participate at any time.
- SUMMARY OF RESULTS:** A summary of the results of this research will be supplied to you, at no cost, upon request.
- VOLUNTARY CONSENT:** I have read the above statements and understand what is being requested of me. I also understand that my participation is voluntary and that I am free to withdraw my consent at any time, for any reason. On these terms, I certify that I am willing to participate in this research project.
- I understand that should I have any further questions about my participation in this study, I may call J. Patrick Byrne - Principal Investigator 808-744-1877, Dr. James E. Henderson - Advisor 412-396-4880, or Dr. Paul Richer, Chair of the Duquesne University Institutional Review Board 412-396-6326.

**Please Note: Returning the anonymous surveys by mail will imply your voluntary consent.**

Duquesne University  
Institutional Review Board  
Approval Date: January 8, 2008  
Expiration Date: January 9, 2009

## DISTRIBUTION OF THE PSEI



# DUQUESNE UNIVERSITY

600 FORBES AVENUE ♦ PITTSBURGH, PA 15282

March 9, 2008

Dear Fellow Educator:

I know that your time is very valuable, but I am writing to ask for your time in helping complete a dissertation study. Distribution of the enclosed surveys with SASE's to your teachers is the help I need to learn more about how entrepreneurial organizational characteristics relates to various measures of school success.

As the enclosed letter from Patricia Hamamoto notes, all information will be completely anonymous. In fact since this packet has been mailed, only a randomly assigned number will track school return rates. No record now exists that ties schools with numbers.

Again, having been a building principal for seven years, I know your time is tight. I appreciate your consideration of this request. If you have questions, please call.

Sincerely,

Patrick Byrne  
Doctoral Candidate  
808-744-1877

### **DISTRIBUTING THE PUBLIC SCHOOL ENTEREPRENEURIAL INVENTORY – A GUIDE FOR PRINCIPALS**

1. Please have your office staff count the number of survey packs. If more are needed, please feel free to contact Patrick Byrne at 808-744-1877 or [kasby@hawaii.rr.com](mailto:kasby@hawaii.rr.com)
2. Please have your office staff put each survey pack in a teacher's mailbox.
3. Each survey pack includes:
  - A consent form
  - The PSEI
  - A self addressed stamped envelope

That is the extent of your involvement. Teachers are asked to complete and mail this survey on their own.

Please know that the teacher's name, your name, or the schools name will never appear on any survey or research instruments. No identity will be made in the data analysis. Responses will only appear in statistical data summaries. All materials will be destroyed at the completion of the research.

It is requested that teacher mail their completed surveys by **April 11<sup>th</sup>**.

IRB APPROVAL LETTER



DUQUESNE UNIVERSITY

Office of Research

424 RANGOS BUILDING ♦ PITTSBURGH, PA 15282-0202

Dr. Paul Richer  
Chair, IRB-Human Subjects  
Human Protections Administrator  
Office of Research  
Phone (412) 396-6326 Fax (412) 396-5176  
e-mail: richer@duq.edu

January 8, 2008

Mr. Patrick Byrne  
91-2031 Luahoana Street  
Ewa HI 96706

**Re: Entrepreneurial organizational characteristics in schools: its relationship to school success  
(Protocol # 07-131)**

Dear Mr. Byrne:

Thank you for submitting your research proposal for IRB review.

Based on the review of Dr. Joseph Kush, IRB Representative, and my own review, your study is approved as **Exempt** based on 45-Code of Federal Regulations-46.101.b.2 regarding research using anonymous surveys.

This approval applies strictly to the submitted protocol. If you intend to make any changes in procedure you must submit an amended protocol to the IRB Chair and receive approval before you proceed. In addition, if any unforeseen problems or adverse events occur, they should be reported immediately to the IRB Chair before proceeding. In correspondence, please refer to the protocol number shown after title above.

Once your study is complete, provide our office with a short summary (one page) of your results for our records.

Thank you for contributing to Duquesne's research endeavors.

Sincerely yours,

Paul Richer, Ph.D.

C: Dr. Joseph Kush  
Dr. James Henderson  
IRB Records

## SUPERINTEDENT APPROVAL LETTER

LINDA LINGLE  
GOVERNOR



PATRICIA HAMAMOTO  
SUPERINTENDENT

STATE OF HAWAII  
DEPARTMENT OF EDUCATION

P.O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

March 7, 2008

Patricia Hamamoto  
Superintendent

Mr. J. Patrick Byrne  
91-2031 Luahoana Street  
Ewa Beach, Hawaii 96706

Dear Mr. Byrne:

I am pleased to approve your request to study how a school's level of entrepreneurial characteristics relate to various indicators of school success. I understand that your research design involves surveying all elementary school teachers and that school principals will be asked to distribute the surveys to their teachers.

Approval of the study is subject to the following conditions:

- Participation by schools, teachers, and school staff will be voluntary. Your research activities will be conducted with the understanding and approval of the school principals. Participating schools may also withdraw from the study if it is found to be too intrusive.
- Your study must not contain any personally- or school-identifiable information.
- Discuss the findings and recommendations of your study with the Assistant Superintendent of the Office of School Facilities and Support Services (OSFSS) and the Assistant Superintendent of the Office of Human Resources and appropriate staff.
- Provide copies of the results of your study to the Director of the Systems Accountability Office. Approval for future research studies is conditional upon completion and submission of this report to the Systems Accountability Office.

The Department of Education recognizes the promise and value in integrating entrepreneurial organizational characteristics in schools. Among other benefits, by showing a connection between leadership/innovation and student achievement, we are hopeful that your study will lead to more effective training for principals.

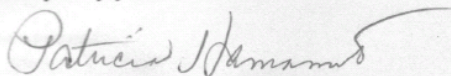
Thank you for also modeling the belief that education and learning are indeed lifetime pursuits. I understand the challenge of integrating a doctoral program into a life filled with the demands of family, work, and other commitments. Your passion and commitment to personal growth and the acquisition of knowledge are enduring qualities that mark a strong sense of personal worth and responsibility for others.

SUPERINTEDENT APPROVAL LETTER

Mr. J. Patrick Byrne  
March 7, 2008  
Page 2

Best wishes for a successful research study. Should you have any questions, please contact Ower Yamasaki of the Systems Accountability Office at 586-3285.

Very truly yours,



Patricia Hamamoto  
Superintendent

PH:mo

- c: All Elementary School Principals  
Lea Albert, Complex Area Superintendent  
Bruce Anderson, Complex Area Superintendent  
William Arakaki, Complex Area Superintendent  
Mamo Carreira, Complex Area Superintendent  
Mary Correa, Complex Area Superintendent  
Keith Hayashi, Complex Area Superintendent  
Clayton Kaninau, Acting Complex Area Superintendent  
Ronn Nozoe, Complex Aera Superintendent  
Ron Okamura, Complex Area Superintendent  
Patricia Park, Complex Area Superintendent  
Art Souza, Complex Area Superintendent  
Valerie Takata, Complex Area Superintendent  
Dr. Teri Ushijima, Complex Area Superintendent  
Estelle Wong, Complex Area Superintendent  
Arlyne Yonemoto, Complex Area Superintendent  
Office of Human Resources  
Office of School Facilities and Support Services  
Systems Accountability Office