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An Exploration of the Relationship between Length of Prior Employment, Individual Unlearning, and Entrepreneurial Alertness

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An Exploration of the Relationship between Length of Prior Employment, Individual Unlearning, and Entrepreneurial Alertness

Degree Type

Dissertation

Degree Name

Doctor of Education (EdD)

Department

Executive Leadership

First Supervisor

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Second Supervisor

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Subject Categories

Education

Comments

This study investigated the relationship between length of prior employment, unlearning, and entrepreneurial alertness. Unlearning is defined as a set of actions taken by learners to dispose of knowledge (Hedberg, 1981). Entrepreneurial alertness is defined as “the ability to notice without search opportunities that have been hitherto overlooked” (Kirzner, 1979, p.148). Eighty of 504 entrepreneurs (16%) in New York State completed an online survey. The instrument included: (a) the unlearning construct, informed by Kurt Lewin’s unfreeze-move-refreeze model, consisting of three sub-dimensions measured on a Likert scale (Cepeda-Carrion et al., 2010); and (b) the entrepreneurial alertness scale also consisting of three dimensions measured on a Likert scale (Tang et al., 2010). The results indicated a significant positive relationship between unlearning and entrepreneurial alertness ($r=0.349$, $p= 0.01$). No significant correlation was shown to exist between length of prior employment and unlearning or length of prior employment and entrepreneurial alertness. The findings suggest that the process of unlearning is interwoven throughout the process of entrepreneurial alertness and perhaps can be used as a driving force or catalyst to increase or produce entrepreneurial alertness capabilities in individuals. This study could have significance to the field of entrepreneurial learning and entrepreneurship. Researchers endeavor to understand how entrepreneurs learn, since learning and knowledge have been purported to be vital to competitive advantage for companies. Scholars in the field of entrepreneurship are continually confronted with the challenge of understanding how opportunities to bring new products and services to the marketplace are discovered and exploited, by whom and under what conditions (Venkataraman, 1997). The challenge is why, when, and how certain individuals can recognize and exploit these opportunities, but others do not or cannot (Venkataraman, 1997). Understanding whether unlearning and entrepreneurial alertness have a symbiotic relationship is a necessary step in responding to these challenges. If the two constructs are positively correlated, perhaps increasing an individual’s ability to unlearn

could be used as a way of increasing his or her ability to be alert; to have more of an inclination to notice, without search, the existence of opportunities.

An Exploration of the Relationship between Length of Prior Employment,
Individual Unlearning, and Entrepreneurial Alertness

By

Sequetta F. Sweet

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

Supervised by

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St. John Fisher College

August 2012

Dedication

The completion of this dissertation and doctoral journey is first dedicated to Almighty God – my Creator, Source, Strength and Everlasting Father. However, this daunting journey could not have been successfully completed without support and encouragement along the way from many incredible people. And so to all of you for your warm thoughts, prayers and kind words, I also dedicate the work:

My strong husband – Charles Anthony Sweet;

My beautiful mother – Apostle Orpah R. Francis;

My great big brother – Charlie Jerone Francis I;

My praying aunties – Ruthie Williams, Brenda Pelt, Sarah Jackson and Janie Wright;

My encouraging cousins – Lydia, Michael and David Williams;

The rest of the Pelt-Dawsey tribe;

My play-play daughters – Yolanda Williams, LaTrisha Johnson and LaKeisha Williams;

My dissertation chair – Dr. Jason Berman *and committee* – Dr. Karyl Mammano are the absolute best!

My church family – Triumph the Church and Kingdom of God in Christ – Rochester, NY;

My dear friends – Beatrice and Norman Roberts, Denise Hilaire, Jardin Carlton,
Dr. Shannon Cleverley-Thompson, Betsy Christiansen, Gloria Morgan and
Barbara Cutrona;

My executive mentor for the program – Dr. David Martin;

My favorite faculty members – Dr. Jeannine Dingus-Eason and Dr. Marie Cianca.

Thank you and I love you all.

To God be all glory, honor, wisdom, power and strength – be glorified Lord!

Biographical Sketch

Sequetta F. Sweet founded *Atteuq Potential Unlimited, Inc.* in 2005. The company provides Performance and Talent Management consulting with emphasis on Human Resource Training, Development, Organizational Learning and Change. The ultimate objective is to assist in improving individual and organizational performance – *unleashing potential and driving performance*. Services are provided in the following areas: Leadership Development, Strategic Planning, Performance Management, Management, Project Management, Customer Service, Diversity & Diversity Management, Executive Coaching, Communication, Assertiveness, Dealing with Difficult Personalities, Systems Analysis & Design, Software Development, and Microsoft Office Products.

Prior to starting *Atteuq*, Sequetta enjoyed a nearly 25 year career in corporate America and the information technology (IT) industry working to hone her leadership, business, and IT skills. She has worked at Fortune 500 companies in both Rochester, NY and Boston, MA. She served as an adjunct instructor at Monroe Community College in the Office and Computer Programs department.

Sequetta began the Ed.D. Program in Executive Leadership in 2010 focusing her research in the areas of Entrepreneurship and Entrepreneurial Learning. She served as a graduate assistant to the program and completed field experiences in Entrepreneurship with the College's Bittner School of Business. Sequetta received her Master of Science

in Organizational Learning and Human Resource Development from St. John Fisher College in 2008 and Bachelor of Science in Computer Science from Rensselaer Polytechnic Institute in Troy, NY in 1983.

Abstract

This study investigated the relationship between length of prior employment, unlearning, and entrepreneurial alertness. Unlearning is defined as a set of actions taken by learners to dispose of knowledge (Hedberg, 1981). Entrepreneurial alertness is defined as “the ability to notice without search opportunities that have been hitherto overlooked” (Kirzner, 1979, p.148).

Eighty of 504 entrepreneurs (16%) in New York State completed an online survey. The instrument included: (a) the unlearning construct, informed by Kurt Lewin’s unfreeze-move-refreeze model, consisting of three sub-dimensions measured on a Likert scale (Cepeda-Carrion et al., 2010); and (b) the entrepreneurial alertness scale also consisting of three dimensions measured on a Likert scale (Tang et al., 2010). The results indicated a significant positive relationship between unlearning and entrepreneurial alertness ($r=0.349$, $p= 0.01$). No significant correlation was shown to exist between length of prior employment and unlearning or length of prior employment and entrepreneurial alertness.

The findings suggest that the process of unlearning is interwoven throughout the process of entrepreneurial alertness and perhaps can be used as a driving force or catalyst to increase or produce entrepreneurial alertness capabilities in individuals. This study could have significance to the field of entrepreneurial learning and entrepreneurship. Researchers endeavor to understand how entrepreneurs learn, since learning and knowledge have been purported to be vital to competitive advantage for companies.

Scholars in the field of entrepreneurship are continually confronted with the challenge of understanding how opportunities to bring new products and services to the marketplace are discovered and exploited, by whom and under what conditions (Venkataraman, 1997). The challenge is why, when, and how certain individuals can recognize and exploit these opportunities, but others do not or cannot (Venkataraman, 1997).

Understanding whether unlearning and entrepreneurial alertness have a symbiotic relationship is a necessary step in responding to these challenges. If the two constructs are positively correlated, perhaps increasing an individual's ability to unlearn could be used as a way of increasing his or her ability to be alert; to have more of an inclination to notice, without search, the existence of opportunities.

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Chapter 1: Introduction

Introduction

Entrepreneurs and the process of entrepreneurship are important to economic growth. Entrepreneurs drive market production by recognizing, exploiting and creating opportunities (Valliere, 2011). Opportunities are the foundation of the field of entrepreneurship (Shane & Venkataraman, 2000). Scholars assert that an entrepreneur's ability to discover or recognize opportunities is the hallmark of entrepreneurship (Kirzner, 1973, 1979). The study of cognitive science and cognitive factors may inform entrepreneurship theory and the entrepreneurial process to help understand why some people are able to recognize opportunities and others are not. An emerging cognitive element—entrepreneurial alertness—has been purported to be an impetus in an entrepreneur's ability to effectively recognize opportunities (Kirzner, 1979). The ability to discover and recognize opportunities requires a high level of entrepreneurial alertness—an exceptional capacity for detecting previously unidentified opportunities (Kirzner, 1973, 1979; Kaish & Gilad, 1991).

Cognitive research includes the examination of how entrepreneurs accumulate, change, store and use information as they think and act. Humans typically reject change because doing things the old way helps retain the stability and the predictability of life that is sought and enjoyed so much (Schein, 1996). However, successful entrepreneurs are eager to learn and embrace change (Gatewood et al., 1995). Often, it is not possible for learning to occur until unlearning—a process of disconfirming current beliefs and

attitudes—occurs (Starbucks, 1996). Thus, unlearning can be an important and necessary part of the change process. Both cognitive mechanisms—entrepreneurial alertness and unlearning—may improve entrepreneurial success.

The rise in unemployment has precipitated a rise in individuals starting their own entrepreneurial ventures. People who have spent an extended period of time employed by an organization develop organizational filters when engaged in decision making and problem solving (Keisler & Sproull, 1982). Yet, researchers note the need and tendency for entrepreneurs to use different cognitive mechanisms for decision making and problem evaluation more than employees in organizations (Gaglio & Katz, 2001). Thus, this study will serve as an exploration of the relationship between length of prior employment, unlearning and entrepreneurial alertness for entrepreneurs.

Problem Statement

Entrepreneurial alertness and unlearning. The concept of schemas or mental models used in helping individuals in decision making and problem solving have long been studied in various disciplines. From a psychological or cognitive perspective, individuals use schemas to help direct interests and concerns, process information, and guide perceptions and ways of thinking (Gaglio & Katz, 2001). Often, individuals subconsciously activate habitual schemas that are inappropriate or inaccurate (Keisler & Sproull, 1982). According to Kirzner (1979), alert individuals have more distinct and discriminating mental models that assist them in decision-making. Gaglio and Katz (2001) propose that entrepreneurially alert individuals have an alertness schema that directs their attention to new, abnormal, or opposing situations. They suggest that alert individuals may have the propensity to look for the unusual or different, or question the

obvious. More research is necessary to understand how entrepreneurs, in particular alert individuals, develop and use mental models or schemas. The challenge is to understand how entrepreneurs cognitively determine whether opportunities or the possibility of opportunities exists.

As with entrepreneurially alert individuals, individuals who unlearn have the propensity to question common assumptions and thinking. Unlearning is particularly necessary for what is considered deep, higher-level or generative learning. This level of learning is the basis for the ridding of underlying values and assumptions that hinder behavior change. Sinkula (2002) calls this learning a paradigm shift. Argyris and Schön (1978) in their seminal work on organizational learning refer to this as double-loop learning. Double-loop learning requires that the learner challenge existing assumptions and beliefs, and then move to behavior change. Unlearning occurs at this level. Conversely, single-loop learning requires no unlearning since goals and plans are implemented without questioning or challenging their validity or necessity (Argyris & Schön, 1978). This thinking leads to the belief that a person who has the inclination to unlearn may also have the propensity to be entrepreneurially alert.

Length of prior corporate employment. Individuals who work in an organization are affected by the culture and environment of that organization, cognitively and in other ways. Researchers suggest that employees of organizations often use their organizational culture schema to assess situations and make decisions, and that this schema tends to prejudice the individual against recognizing less obvious signals (Keisler & Sproull, 1982) or cause the individual to discount the significance of signals of market change (Cowan, 1986). “The influence of these schema[s] is so pervasive and constant

that while the individual can consciously activate and use them, he or she is rarely aware of doing so, which is precisely the point of a chronic schema” (Gaglio & Katz, 2001, p. 98). Psychological defenses or group norms deeply entrenched in organizational culture cause individuals to resist change and the driving forces to change (Schein, 1996). Thus, the schema that individuals continually activate can become chronic. Individuals who spend a substantial amount of time working in corporate environments and then decide to leave to start their entrepreneurial venture may find that they have to develop the ability to unlearn past attitudes and behaviors and the ability to be entrepreneurially alert in order to be successful in their entrepreneurial ventures. This is important to understand since researchers suggest that entrepreneurs require a different set of skills than managers in corporations (Dunphy & Meyer, 2002). Developing these abilities in order to realize success as an entrepreneur may be more difficult for these individuals because of their tendency to use their former organizational—habitual or chronic—schema.

People who have spent a significant number of years in a corporate environment draw from the schema developed by the organization for which they worked. These schemas do not allow them to make entrepreneurial decisions or be alert to the existence of entrepreneurial opportunities. When they decide to leave their corporate positions and launch entrepreneurial ventures, they must unlearn ways of thinking that are brought on by the use of their previously useful organizational schema, and learn to develop and use a new alertness schema. The longer a person works in a corporate setting prior to launching an entrepreneurial venture, the less their propensity to unlearn and the less their inclination to be entrepreneurially alert. Thus, there is an inverse relationship between prior length of employment and unlearning and between prior length of employment and

entrepreneurial alertness. Further, the individual who is inclined to unlearn is also more likely to be entrepreneurially alert. Consequently, there is a positive relationship between unlearning and entrepreneurial alertness.

Theoretical Rationale

Unlearning. Change theorist and psychologist Kurt Lewin first introduced the concept of unlearning in the 1940s with his “unfreeze-move-refreeze” change model. For decades afterward, literature focusing on unlearning was mostly studied in the context of management and organizational learning (Lewin & Gold, 1999). Much of the research during those years was principally anecdotal rather than empirical, focusing primarily on examining the literature (Akgün, Lynn, & Byrne, 2006). Hedberg (1981), with his seminal work on how individuals, groups and organizations learn and unlearn is one of the key thinkers behind unlearning theory. Nystrom and Starbuck (1984), Fiol and Lyles (1985), and McGill and Slocum (1993) were also instrumental in generating insights on the topic.

In recent years, scholars have begun to understand how unlearning affects learners in the contexts of nursing (Macdonald, 2002), crisis management (Wang, 2008), education (Conner, 2010; Kohn, 2000), hospitality (Cegarra-Navarro, Eldridge & Martinez-Martinez, 2010) and sales (Chonko, Dubinsky, Jones, & Roberts, 2003). Though scholars have also begun to study unlearning pertaining to new product development in entrepreneurial ventures (Akgün, Lynn, & Byrne, 2006; Akgün, Byrne, Lynn, & Keskin, 2007a), the unlearning construct has not been adequately addressed as it pertains to entrepreneurship or entrepreneurs and their firms. In fact, several scholars have proposed it as an important area for future research in entrepreneurship (Cope,

2005; Harrison & Leitch, 2005; Young & Sexton, 2003). Consequently, there is a great need to understand whether or how unlearning affects entrepreneurs and their ability to learn.

Individual unlearning is generally considered a process rather than a single event. Scholars have described unlearning both as a set of phases and as a series of steps. The three phases of unlearning are proposed to be “problem identification, acceptance of change and new practices” (Cegarro-Navarro & Dewhurst, 2003a, p. 151). Unlearning as a series of steps begins when an individual encounters disconnection between what caused his or her success in the past and the challenges he or she faces now or will face in the future (Hamel & Prahalad, 1994) or when he or she identifies existing knowledge and realizes that the knowledge is no longer applicable or necessary (Tsang & Zahra, 2008; Srithika & Bhattacharyya, 2009). The unlearning process continues as the individual openly acknowledges that there is outmoded knowledge, purposefully rejects or avoids the use of that knowledge, and finally, replaces that obsolete knowledge with new knowledge (Srithika & Bhattacharyya, 2009). It is also important to note that though unlearning itself is considered a continuous process, and though entrepreneurs can and do learn via procedural and habitual activities, deeper level learning (described as double-loop learning earlier in this work) tends to be more evident in entrepreneurs through more gradual, discrete, and discontinuous learning events (Cope, 2003). Figure 1.1 combines and organizes the phases and steps of unlearning, and gives a pictorial representation of the integration of these phases and steps. The steps seem to fit logically within the structure of the phases even though different scholars have proposed each.

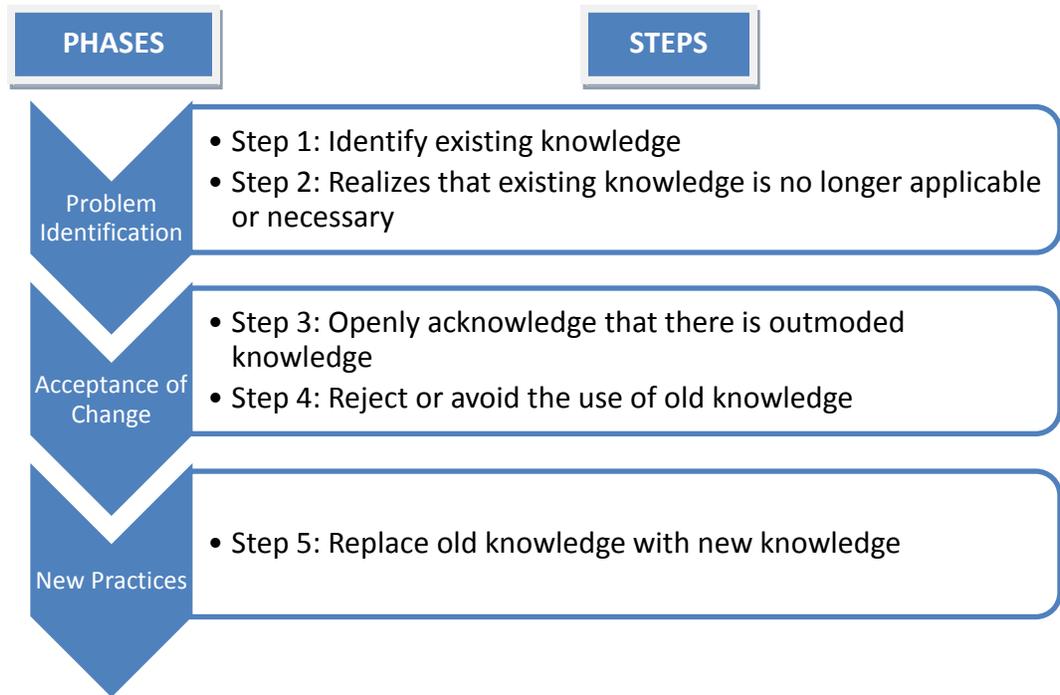


Figure 1.1. Phases and Steps of the Individual Unlearning Process. Phases of the Unlearning Process adapted from Cegarra-Navarro, J. G., & Dewhurst, F.W. (2003a). Unlearning as a prior step in the creation of intellectual capital in the organizational context: An empirical investigation. In 4th European Conference on Knowledge Management, 18-19 September, Oxford University, p. 151. Steps of Unlearning Process adapted from Srithika, T. M. & Bhattacharyya, S. V. (2009). Facilitating organizational unlearning using appreciative inquiry as an intervention. *The Journal for Decision Makers*, 34(4), p. 70. The piece from Srithika and Bhattacharyya only includes the list of steps for individual unlearning. The steps for group and organizational unlearning are left out of the process.

Though scholars tend to agree that change is a basic outcome of unlearning, they differ on whether the final step outlined above—replacing obsolete knowledge with new knowledge—is part of the unlearning process. Klein (1989) asserts that the unlearning

construct does not include all that is required for a comprehensive change to take place. He suggests that unlearning discontinues after removing old knowledge and does not include the all-important step of replacing unwanted knowledge. Others purport that the unlearning process makes acquiring new knowledge (change) possible and fully encompasses replacement of knowledge that is removed (Hedberg, 1981; Cegarra-Navarro & Dewhurst, 2003b; Cegarra-Navarro & Moya, 2005). It is generally agreed that removal of old knowledge and the acquisition of new knowledge are necessary for comprehensive change to take place.

Researchers differ in their views on what an individual unlearns during the unlearning process. Beliefs, routines and physical artifacts are unlearned, and unlearning is the process of actually changing those beliefs and routines (Akgün et al., 2007b). Beliefs are “know-what,” routines are “know-how,” and physical artifacts represent organizational knowledge like the organization’s rules and regulations. Srithika and Bhattacharyya (2009) assert that beliefs, habits, routines, and processes are unlearned. Other researchers suggest that unlearning removes or adjusts: (a) norms, values and procedures (Baker & Sinkula, 1999); (b) core behavior-guiding assumptions (Shaw & Perkins, 1991); (c) schemas or mental models (Day & Nedungadi, 1994); (d) norms, values, and behaviors (Nystrom & Starbuck, 1984); and (e) dominant logics (Bettis & Prahalad, 1995). Because unlearning is considered a cognitive process, what is actually unlearned must be of a cognitive nature (Akgün et al., 2007b), and can include beliefs, habits, assumptions, norms, values, routines, procedures, processes, schemas or mental models, and other components pertaining to knowledge.

Scholars have noted that unlearning is spurred by the needs and motivations of the individual, usually stemming from his or her failures, problems that are discovered, or dissatisfaction that arises. Failures, problems and dissatisfaction produce feelings of chaos for the individual and trigger the need for him or her to engage in the unlearning process. Srithika and Bhattacharyya (2009) state that "...individual unlearning is driven by individual motives and needs..." (p. 70). Regarding failures that drive unlearning, Schein (1993) believes that all unlearning starts with some kind of failure and that this failure usually results from incongruence between the expectations of the individual and the expectations the organization has of the individual. Regarding problems and unlearning, when an individual is presented with a problem, he or she must engage in the unlearning process in order to adjust his or her mental models to solve that problem (Cegarra-Navarro & Moya, 2005). Finally, regarding dissatisfaction that drives unlearning, any type of learning starts with some type dissatisfaction or aggravation (Schein, 1993). The individual learner's motives and needs determine his or her entry into and progression through the difficulties of the unlearning process.

Researchers have also posited that environmental turbulence in an organization triggers individual unlearning. High levels of environmental unrest and instability have been found to cause individuals to unlearn routines and beliefs (Hedberg, 1981). Organizational turbulence, sometimes in the form of changes in leadership or other crises, often triggers individual unlearning. In fact, Fiol and Lyles (1985) suggest that because beliefs and attitudes become deeply engrained in an individual, "shocks, jolts or crises" (p. 808) will be required in order for unlearning to take place. Organizations can use

planned turbulence, disorder, or change to be the catalyst for employee entry into the difficult unlearning process.

At issue for unlearning is that it is difficult and may render the learner unproductive or with low performance for a period of time. It is more difficult to unlearn than it is to learn (Hamel & Prahalad, 1994). Unlearning is an awkward, arduous process (Hedberg, 1981) because individuals can become enslaved by their experiences thereby causing the inability to learn new skills and competencies (Hamel & Prahalad, 1994). Because attitudes and behaviors can become so engrained in an individual, the ability to unlearn can require a crisis of sorts to drive the individual to unlearn so that new learning and change can take place (Nystrom & Starbuck, 1984). Learners may experience physical, emotional or psychological delays or difficulties during the unlearning process (Magrath, 1997). An important aspect of unlearning is being able to recognize and challenge behaviors and assumptions that had previously gone unchallenged (Connor, 2010). Thus, a proper environment for unlearning must be cultivated to reduce these difficulties and facilitate unlearning.

Opponents of unlearning. One argument against unlearning and the necessity to unlearn comes from Klein (1989) who contends that unlearning is inadequate as a theory for evoking change and improvement. His premise is that unlearning simply replaces an old response with a new response and that nothing is improved by doing this. “An improved response requires a transformation not simply in response, but rather in the organization's method of selecting responses. And a new method of selecting responses requires an accretion rather than a decrement in (i.e., 'discarding') knowledge” (Klein,

1989, pp. 291-292). In other words, rather than unlearning a specific behavior, learning new methods for choosing actions is what evokes change and improvement.

Klein (1989) proposes parenthetic learning as opposed to unlearning as a model for change. With parenthetic learning, rather than discarding existing knowledge, the learner exploits existing knowledge by retaining it, but removing it from the set of applicable knowledge necessary for a given problem or situation. This set of applicable knowledge is said to be parenthesized. Klein suggests that the unlearning model greatly underestimates the capabilities of the learner by assuming that he or she is not able to set aside knowledge that is not necessary at a given time. He contends that setting aside unimportant knowledge and parenthesizing important and necessary knowledge is easier and much more useful than eliminating knowledge altogether. Klein's parenthetic learning is an interesting alternative to unlearning and may have validity for change of a temporary nature. However, unlearning theory may be a more compelling approach to entrepreneurial learning particularly as it relates to deep, transformational, permanent change in dynamic environments.

Entrepreneurial alertness. Economist Israel Kirzner first proposed the entrepreneurial element known as alertness in his seminal work in 1973, but then more extensively in his 1979 work. Kirzner believes an individual's ability to be entrepreneurially alertness is without intention or search and that he or she is continually waiting and perpetually open to opportunities. Since this individual is naturally alert and always ready, when it is time to make a decision he or she acts to exploit the opportunity. Kirzner (1979) calls this alertness "the entrepreneurial element in human action" (p. 7).

Kirzner's (1979) assertions about entrepreneurial alertness are centered primarily on understanding how a person learns about possibilities of the existence of opportunities in order to be continually alert to them without exercising a purposeful search for them. He believes that an alert individual readily transforms decision-making into a clear vision of actions that must and will be performed. Kirzner proposes that the entrepreneurially alert individual is not passively exposed to nearby opportunities, but possesses a natural propensity to perceive and a posture for noticing possibilities and taking gainful action. Ray and Cardozo (1996) contend that opportunity recognition follows the keen state of awareness of an entrepreneur. The alert entrepreneur is continually and naturally aware often without even knowing it.

Kirzner (1979) further asserts that the condition under which this alertness is most apparent is during market disequilibrium—when there is profit to be gained. Opportunities for entrepreneurial profit are only available in disequilibrium. When market equilibrium has been achieved, all opportunities have been discovered and there is no outstanding knowledge to be uncovered. During market disequilibrium, however, there is yet a lack of information and knowledge, and even a question for knowledge to satisfy equilibrium. Incorrect or inappropriate decisions have been made, leaving the opportunities for better and correct market decisions to be made during market disequilibrium. The alert individual notices these opportunities and takes action to exploit them.

It is not fully known when or how alertness is developed. Kirzner (1979) posits that alert individuals do not even know that they are alert. Yu (2001) proposed that alert individuals do not know that the alertness is available to them as a resource. He further

offers that the discovery of entrepreneurial opportunities is precipitated by alertness, which is associated with the alert individual's accumulation of knowledge drawn from everyday experiences. Another suggestion is that a person awakens to alertness when a crisis—the need to solve a problem—arises (Choi, 1997). Remember that researchers believe that unlearning, too, is precipitated by crises or the need to solve a problem. However, Yu (2001) argues that a genuine entrepreneur does not need the existence of a critical issue to trigger alertness. “Entrepreneurs by definition possess the alertness quality” (p. 58). They are naturally aware of information and situations that lead to opportunities.

The fundamental principle of entrepreneurial alertness is information—how an individual accumulates, processes or interprets, and stores information. The belief is that alert individuals manage and interpret information differently than non-alert individuals (Kirzner, 1979; Gaglio & Katz, 2001). Gaglio and Katz (2001) suggest that alert people have an alertness schema (a mental model or framework) which causes them to recognize opportunities that others do not. These individuals recognize changes in market disequilibria, act in response when information does not align with their current schema, and even adjust their working schema by questioning their own assumptions and thinking. Moreover, alert individuals strive for accuracy in their decision-making and problem solving activities, while the non-alert person seems to strive merely to get things done. The entrepreneurial alertness schema is a complex cognitive model, the existence of which causes individuals to fully use information and past experiences in decision-making and problem solving in order to “think out of the box” as Baron (2004, p. 232) submits. The possession of this level of thinking increases the possibility that an

individual will recognize an opportunity (Ardichvili et al., 2003). Thus, alert individuals possess, unlearn, and activate cognitive abilities that non-alert individual do not which may be the reason for their success as entrepreneurs.

Statement of Purpose

The purpose of this study is to understand the relationship between individual unlearning and entrepreneurial alertness. Further, the intention is to understand the relationship between prior length of employment, and both unlearning and entrepreneurial alertness.

Research Questions

There are three questions for consideration in this study. Is there a significant correlation between unlearning and alertness for entrepreneurs? Is there a significant correlation between length of prior employment and unlearning? Finally, is there a significant correlation between length of prior employment and entrepreneurial alertness? It appears that to date, little if any research has focused attention on correlations between unlearning and entrepreneurial alertness or the correlation between these two constructs and length of prior employment.

Potential Significance of the Study

This study could have substantial significance to the field of entrepreneurial learning and entrepreneurship itself. Entrepreneurship and entrepreneurial learning are emerging concepts. It is believed that much can be understood about entrepreneurs, their organizations and how to improve their success by examining how they obtain and synthesize knowledge (Minniti & Bygrave, 2001). Researchers endeavor to understand how entrepreneurs learn, since learning and knowledge have been purported to be vital to

competitive advantage for companies. More specifically, scholars in the field of entrepreneurship are continually confronted with the challenge of understanding how opportunities to bring new products and services to the marketplace are discovered and exploited, by whom and under what conditions (Venkataraman, 1997). The challenge is why, when, and how certain individuals can recognize and exploit these opportunities, but others do not or cannot (Venkataraman, 1997). The field of entrepreneurship necessitates continual study of the underpinning of opportunities and opportunity recognition, and the individuals who recognize opportunities (Shane & Venkataraman, 2000). Understanding whether unlearning and entrepreneurial alertness have a symbiotic relationship is a necessary step in responding to these challenges in order to understand whether individual unlearning can be used as a method of facilitating entrepreneurial alertness. If the two constructs are positively correlated, perhaps increasing an individual's ability to unlearn could be used as a tool of increasing the individual's ability to be alert; to have more of an inclination to notice, without search, the existence of opportunities.

The high rate of unemployment has precipitated an increase in small business creation. Entrepreneurship is now a career path as evidenced by the degrees available in entrepreneurship at numerous colleges and universities worldwide. People who have long enjoyed success working for corporations are now being laid off or quitting and launching entrepreneurial ventures. Further, an entrepreneur's past learning and habitual activities may inhibit his future behavior (Minniti & Bygrave, 2001). Existing knowledge may impede performance, and the development and success of individuals (Nystrom & Starbuck, 1984; Hatch & Dyer, 2004). The dilemma, then, is how

individuals can unlearn the attitudes, behaviors, ways of being, and ways of thinking that were the source of their success in the past (Bennis, 1997). Understanding whether there is a correlation between length of prior corporate employment, unlearning, and entrepreneurial alertness could inform the entrepreneurial and economic development process in our communities by understanding if there may be knowledge amassed during the employment period that impedes or enables an individual's future success as an entrepreneur.

Definitions of Terms

This section contains terminology that is important to this study.

Clueless entrepreneurs are “entrepreneurs who have low [entrepreneurial alertness] but an internal attributional style. This type of individuals may be less alert to new information, or even unaware of market situations or events that may be a valuable opportunity. They may still become entrepreneurs, however, because they believe their hard work and strong capability will lead to their success regardless of task difficulty. Clueless entrepreneurs may also act on opportunities provided by other people.” (Tang et al., 2009, p. 279).

Disequilibrium is “the existence of an as yet unexploited opportunity for entrepreneurial profit”, (Kirzner, 1979, p. 111).

Entrepreneurial alertness is defined as “the ability to notice without search opportunities that have been hitherto overlooked” (Kirzner, 1979, p. 148) and “a concept defining a situation which can be described as a continuous state of being ‘on call’” (Aviram, 2010, p. 115).

Interpretive ability is an entrepreneur's ability to synthesize unrelated information to produce new frameworks (Gaglio & Katz, 2001).

Mental models (also called schemas) are “deeply engrained assumptions, generalization, or even pictures or images that influence how we understand the world and how we take action” (Senge, 1990, p. 8).

Opportunity recognition is “either perceiving a possibility to create a new business or significantly improving the position of an existing business” (Christensen et al., 1989, p. 3).

Perceptive ability is the awareness and accuracy of one's view of market conditions (Gaglio & Katz, 2001).

Practical entrepreneurs are “characterized as having high [entrepreneurial alertness] and an external attributional style. These individuals are able to detect signals from market disequilibria, but they tend to discount potential opportunities, because their external attributional styles make them skeptical of their ability to exploit it. Thus, they do not have a proactive attitude toward the opportunity they discover. They might not act on an opportunity unless they are strongly encouraged, or they may exploit a favorable situation but lack confidence in their success.” (Tang et al., 2009, p. 279)

Reluctant entrepreneurs “are those with low [entrepreneurial alertness] and an external attributional style. They are most probably involved in entrepreneurship for reactive reasons such as unemployment or serendipity. They are not motivated to search for new information and its implications because their low [entrepreneurial alertness] and external attributional styles do not encourage them to proactively look for change.” (Tang et al., 2009, p. 279).

Schemas are “dynamic, evolving mental models that represent an individual’s knowledge and beliefs about how physical and social worlds work” (Gaglio & Katz, 2001, p. 97). They are structured depictions of an event that serve as examples or standards for what is expected” Mezirow (1991).

True believer entrepreneurs are “characterized as having high entrepreneurial alertness and an internal attributional style. This is the typical entrepreneur that entrepreneurship research has studied, although all four types have the capacity to found and grow ventures. True believers are willing to make changes in the schema, frame, or evaluation process to accurately accommodate, predict, and profit from the new information because they believe they have the ability to reallocate available resources to meet situational demands. They may also have greater potential for pursuing an entrepreneurial career because they constantly, habitually, and proactively search for market disequilibria. They desire to obtain information and are likely to be strongly committed to their venture given their high internal attributions.” (Tang et al. 2009, pp. 278-279).

Unlearning is defined as a set of actions taken by learners to dispose of knowledge (Hedberg, 1981).

Chapter Summary

Unlearning and entrepreneurial alertness are important entrepreneurship concepts about which more information must be exposed. The topics have professional significance and interest for entrepreneurial learning and can inform the study of entrepreneurship itself. Chapter 2 of this study will examine the current thinking and research related to unlearning and entrepreneurial alertness. Chapter 3 will explain the

methodology and approach of this present study including the research context, research participants, data collection and data analysis procedures. Chapter 4 reports the results of this study, while Chapter 5 offers an interpretation of those results, limitations of the study, and recommendations.

Chapter 2: Review of the Literature

Introduction and Purpose

This present study is an exploration of the relationship between length of prior corporate employment, unlearning and entrepreneurial alertness. An individual who works in a corporate environment for an extended period becomes accustomed to and comfortable with using the firm's organizational schema. The individual's decisions, perspectives and interpretations of the individual are often shaped by viewing problems and issues through the lens of this organizational schema. Often, this schema does not lead the individual to make entrepreneurially sound decisions or be alert to entrepreneurial opportunities since it is the schema that the person used while serving in a different role and organization. When the individual decides to leave his or her corporate position to launch an entrepreneurial venture, he or she must unlearn attitudes that are formed because of the application of the organizational schema, and learn to develop and use a new alertness schema. The longer one works in a corporate setting prior to launching one's entrepreneurial venture, the less one's propensity to unlearn and the less one's inclination to be entrepreneurially alert.

Once an individual launches their business venture, entrepreneurial learning is at play. There is rapidly growing interest in the field of entrepreneurial learning – learning that entrepreneurs experience during the formation and growth of small business ventures (Cope, 2005). How entrepreneurs learn as they navigate the entrepreneurial process of starting, managing and growing a business is of importance to the field of

entrepreneurship (Cope, 2005; Politis, 2005). This chapter will present a review of the body of research for both unlearning and entrepreneurial alertness significant for this study. An overview of the concepts of entrepreneurial learning and cognitive schemas, and their importance in relation to unlearning and entrepreneurial alertness is first be offered.

Entrepreneurial Learning

Entrepreneurship is synonymous with learning. It is a continuous process of amassing knowledge necessary to successfully launch, maintain and grow a business venture (Minniti & Bygrave, 2001; Politis, 2005). “Effective entrepreneurs are exceptional learners” (Smilor, 1997, p. 344). Entrepreneurial learning is the continual progression of the accumulation of knowledge that is necessary for effectively starting, managing and growing new enterprises (Politis, 2005). Learning in an entrepreneurial environment has also been described as a cyclical process involving the entrepreneur’s repeated learning and behavior adjustment (Deakins, O’Neill & Mileham, 2000). Hence, entrepreneurship is underpinned by learning.

Because learning is so crucial to the development and success of an entrepreneur, it is not possible or plausible to separate entrepreneurship from learning.

“Entrepreneurship is a process of learning and a theory of entrepreneurship requires a theory of learning” (Minniti & Bygrave, 2001, p. 7). The entrepreneur’s continual exposure and enlightenment during entrepreneurial activities transforms his existing knowledge and stimulates more knowledge. His or her experiences become knowledge (Politis, 2005). Thus, entrepreneurship cannot and should not be separated or

differentiated from learning; learning is essential for the existence of successful entrepreneurship.

Effectiveness in entrepreneurship requires that the entrepreneur exhibit high levels of awareness and preparedness which will lead him or her to better recognize, discover or create opportunities and new approaches, but will also require that he or she continually learn. Kirzner, in his seminal work on entrepreneurship and competition, refers to this as “the knowledge of where to obtain information (or other resources) and how to deploy it” (1973, p. 8). Entrepreneurial learning contributes to the success of entrepreneurs and their ability to grow their business. Entrepreneurs’ ability to learn is essential to the growth of business enterprises (Deakins & Freel, 1998). In order to be capable of responding to the rapid changes both inside and outside of the organization, successful entrepreneurs must engage in a continual process of accumulating and updating knowledge – learning. It is the notion of learning and its relationship to recognition of opportunities that conceptually connects the need to unlearn with the need to be entrepreneurially alert. An understanding of cognition and schemas is important to the two main theoretical constructs of this paper – unlearning and entrepreneurial alertness.

Schemas or Mental Models

Schemas, also known as mental models, are important in the development of both unlearning theory and entrepreneurial alertness theory. Schemas are deeply embedded beliefs, abstractions, or images that frame how we perceive the world and the actions we take because of those perceptions (Senge, 1990). These schemas actively change based on information we receive (Gaglio & Katz, 1991). We are often not cognizant of the

existence of these mental frameworks or of their specific effect on our behavior (Senge, 1990). We employ schemas when attempting to make sense of things (Rebernik & Sirec, 2007). They direct how we experience, sense, understand, evaluate and behave in particular situation (Mezirow, 1991). These schemas affect what we see, our perspectives, and our interpretations of what we see. Senge (1990) explains it thusly: “Two people with different mental models can observe the same event and describe it differently, because they looked at different details and made different interpretations” (p. 164). Schemas determine our priorities, relevance, and focus of attention and awareness (Mezirow, 1991). They are the underpinning of our existing knowledge (Cepeda-Carrion et al., 2010). Schemas affect how we understand and examine situations and make decisions (Rebernik & Sirec, 2007). Schemas are our reality; the way we view the world.

People tend to reject change because it makes us uncomfortable. Schemas restrain or confine us to familiar and comfortable ways of being (Senge, 1990). Changing deeply held assumptions and beliefs means fundamentally changing our reality or the way we see reality (Akgün et al., 2007b). Absorbing new knowledge produces internal difficulties when the new knowledge conflicts with what we already know (Cepeda-Carrion et al., 2010). The application of new knowledge can often cause feelings of loss and conflict because these ways of seeing things had previously brought certainty and security (Akgün et al., 2007b). Productivity can be reduced if our schemas are incongruent with changes or new realities that occur in our environment (Senge, 1990). This hinders individual learning and change. However, an individual can unlearn both behaviors and constraints on behaviors (Huber, 1991). Unlearning, the elimination of outmoded or unnecessary knowledge, can be a necessary tool for bringing these deeply

held or chronic schemas to the surface and challenging their validity in the context of the changes that have occurred in the environment.

Gaglio and Katz (2001) suggest that an individual's alertness schema causes him or her to perceive and interpret information more accurately than non-alert individuals. Non-alert individuals do not recognize and integrate market information accurately. They often fail to recognize that their assumptions are not or are no longer correct; are uninformed about availability of new resources; are too optimistic or pessimistic about availability of resources; and are too optimistic or pessimistic about the likely outcome of decisions and actions (Kirzner, 1985). Entrepreneurially alert individuals are not prone to these types of errors (Kirzner, 1979, 1985). Accuracy drives and is a major factor of the alertness schema (Gaglio & Katz, 2001).

Managers of organizations are, in fact, seldom accurate. They succumb to the pressure to act (Weick, 1979; Isenberg, 1986). Because of their need to meet time deadlines, they often submit to the first interpretation of information rather than the most accurate interpretation of information (Weick, 1979). Entrepreneurs, on the other hand, are driven by their need to be accurate in their perception and interpretation of market information (Gaglio & Katz, 2001). It is this level of accuracy that distinguishes entrepreneurs from non-alert individuals and that causes their success as entrepreneurs. This understanding of schemas furnishes the foundation for grasping the significance of both unlearning and entrepreneurial alertness.

Unlearning

Much of the research on unlearning has been narrative and exploratory in nature (Hedberg, 1981; Nystrom & Starbuck, 1984; Srithika, & Bhattacharyya, 2009; Lei,

Slocum, & Pitts, 1999; Fiol & Lyles, 1985). Figure 2.1 shows a chronology of the concept of unlearning from research dating pre-1980 to the beginning of the 21st century

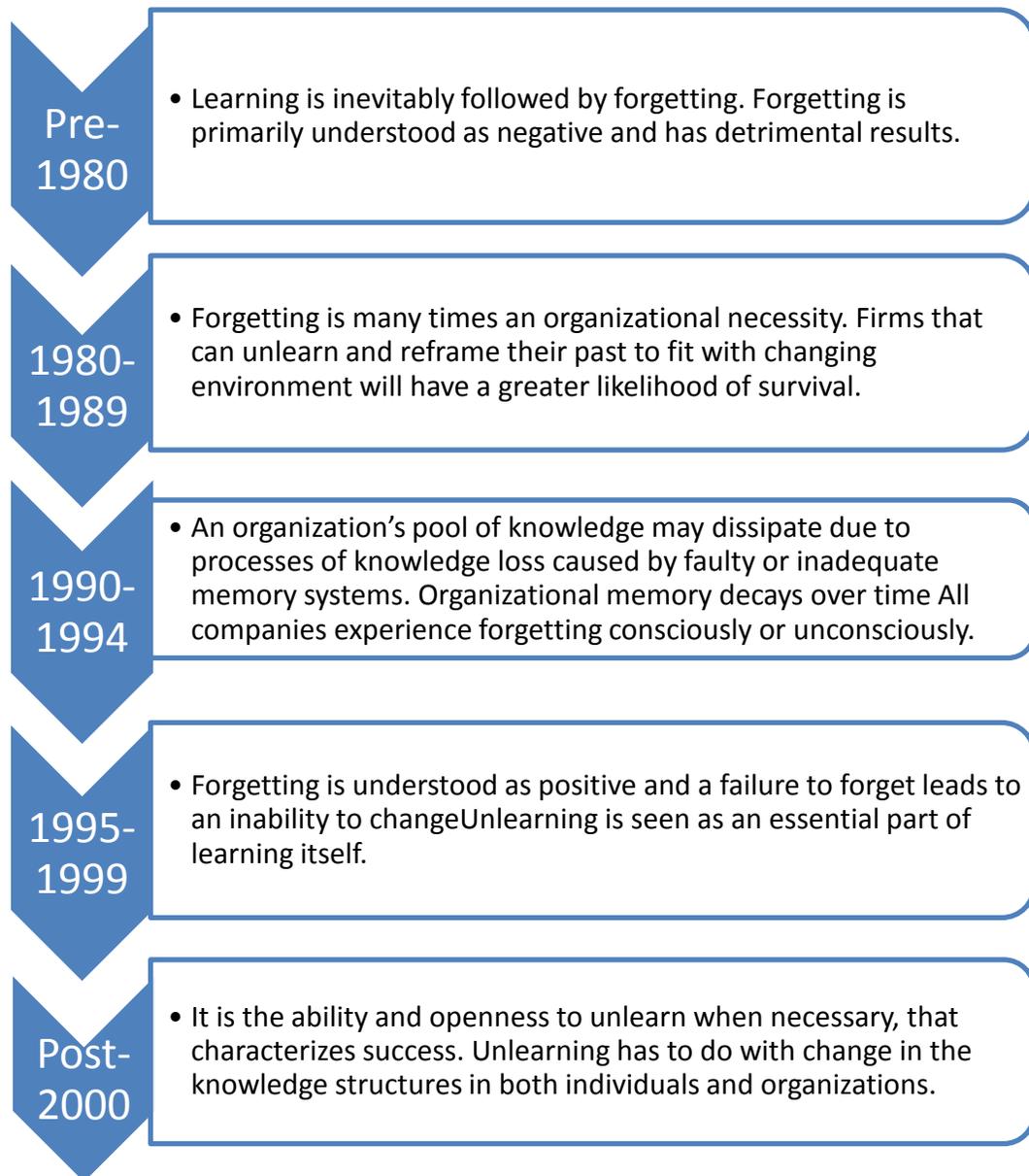


Figure 2.1. Chronology of the Conceptualization of Unlearning. Adapted from Amzi, F. T. (2008). Mapping the learn-unlearn-relearn model: Imperatives for strategic management. *European Business Review*. 20(3), p. 244, Dominant thoughts in each era.

(Azmi, 2008). It depicts the slow progression of the conceptualization and paradigm shift of unlearning. Significantly, research on unlearning stemmed from work that originally focused on forgetting or memory loss, deterioration and elimination (Koffka, 1935; Hull, 1943; Postman, 1965; Toffler, 1970; Joskow & Rozanski, 1979). Unlearning has been defined in the context of individual learning, cognitive psychology, group dynamics, group learning, organizational change and organizational learning for more than four decades. Unlearning can take place at the individual, group and organization level. This present study is concerned with individual unlearning and its impacts. Only a few studies have empirically evidenced the validity of unlearning theory and unlearning as a discernable construct. These studies are not referenced in Amzi's (2008) work and are not shown in Figure 2.1. The body of research on individual unlearning varies in nature and purpose ranging from thoughts that individual unlearning: (a) leads to changes in beliefs and attitude; (b) assists in organizational change and innovation; (c) influences relational capital; (d) affects firm performance and new product success; and (e) is triggered by various conditions. In the next several subsections, only the body of research for individual unlearning relevant to this present study is reviewed. In particular, individual unlearning as it relates to organizational change, and individual unlearning relating to competitive advantage precipitated by innovation, organizational learning, organizational unlearning and organizational relearning are reviewed. Moreover, it is also important to examine the disparate ways that unlearning has been measured in order to establish how it will be measured for this present study. The overall review will lay the groundwork and rationale for the relationship between unlearning and

entrepreneurial alertness, and set the course for answering the research questions set forth in the previous chapter.

Individual unlearning and organizational change. Individual unlearning has been examined in the context of organizational change and as an approach to sustaining organizational change (Prahalad & Bettis, 1986; Starbuck, 1996; Cegarra-Navarro & Moya, 2005; Sinkula, 2002). Becker (2010) focused on an individual's willingness and ability to unlearn during enterprise technology implementations in an organization.

Unlearning, as defined by Becker (2005, p. 661), is "the process by which individuals and organizations acknowledge and release prior learning (including assumptions and mental frameworks) in order to accommodate new information and behaviors". It is difficult for members of organizations to learn without unlearning because they justify reasons for the existence of policies and actions within the organization (Starbuck, 1996). Deeply held beliefs or ideologies and actions at the organization level inhibit unlearning (Akgün et al., 2006, 2007b). Becker (2010) asserts that organizations must focus on human resources and how they are impacted by new technologies in order to realize the full value of technology innovations. She emphasizes that this organizational focus facilitates the willingness and ability of individuals in the organization to surrender past practices and try new things, thereby reducing indolence and increasing the effectiveness of technology innovation. It is critical for a company to cultivate an environment which encourages distinctive, novel and unanticipated technology innovations (Rebernik & Sirec, 2007). Thus, the organizational environment has an effect on the individual learning, unlearning and acceptance of new technology.

Becker's (2010) study highlights the cyclical element of learning and unlearning for individuals in organizations. As the organization and its environment play a role in individuals' learning and unlearning, the individual has an impact on organizational memory and its ability to learn and unlearning. March (1991, p. 73) calls this "mutual learning". He speaks of it in the context of exploration and exploitation; exploration of new opportunities and exploitation of old sureties. Mutual learning has implications for both the individual and the organization. Both short-run and long-run trade-off must be made in order to balance efforts to explore and exploit knowledge. Individuals make decisions about whether or not to modify (unlearn and learn) their beliefs, while simultaneously, "the organizational code adapts to the beliefs of those individuals whose beliefs correspond with reality on more dimensions than does the code" (March, 1991, p. 74). This concept is important in understanding that organizations have a culture, beliefs and routines that may hinder unlearning (Akgün et al., 2006, 2007b). These habitual practices often create inertia and prohibit change and innovation within the organization. Buchen (1999) submits that innovation in an organization is impossible without unlearning. The concept of cyclical unlearning is also important in the relationship of individual unlearning to organizational unlearning in studies reviewed later in this present study.

The ultimate purpose of Becker's (2010) study on unlearning was to understand what individual and organizational factors influence unlearning during technology implementations. Becker researched, developed and administered a 41-item questionnaire to survey the perceptions of employees before, during and after implementation of new enterprise technology projects. The survey was pretested by an

expert panel and pilot tested for reliability and validity. The study was located at a government-owned energy company operating in Australia. Voluntary respondents of the study were 189 of 238 employees in lead operational positions. Five individual factors related to the outlook, perception and experience of the persons who were going through the change were tested: the need for change, assessing the new way, positive experience and informal support, positive prior outlook, and feelings and expectations. Three organizational level factors were tested, however, only two, level of organizational support and training, and history of organizational change, passed discriminate reliability testing.

Becker drew several conclusions from the findings of her study. First, the findings indicated that the outlook a person has prior to the change has an impact on the unlearning process and that organizations may be able to influence the individual's prior outlook through effective communication about the implementation and other approaches. Second, individuals' feelings and expectations prior to and during the change effect the unlearning process, supporting the notion that change is an emotional, and often not rational, process. Organizations must address feelings pertaining to change and provide reassurance prior to the implementation of new technology. Third, the individual's experience and informal support during the implementation, importantly, influence the unlearning process and has direct relationship to the individual's encounters with their direct supervisor and colleagues during the implementation. Supervisors and peers play a critical role in promoting a climate of support during technology implementations. Forth, understanding the need for the change is necessary not only before the change, but throughout the whole unlearning process. Understanding the need

for the change speaks to the cognitive aspect of accepting change and can be positively supported by the individual's supervisor through effective communication of success stories of new implementations. The fifth and final individual factor has to do with the person's assessment of the new way after implementation; how the new way compares to the old way. Evaluating, comparing and contrasting are ongoing throughout the unlearning process, not just at the end. The existence of this factor can be helpful in indentifying system and process improvement if individuals affected by the change are given the opportunity to provide feedback.

Individual unlearning is affected throughout the technology implementation process. Organizationally, two factors have significance to the unlearning process. First, the history of organizational change in the firm has an impact on individual outlook on the implementation based on whether existing organizational routines are viewed as beneficial (enable change) or detrimental (hinder change) in the organization. Individual reluctance to change may be increased if the organization has handled change poorly in the past. Acknowledgement of poor practices of the past may help here. The second and final organization level factor is organizational support and training and has to do with training, information sessions and documentation provided to the assist individuals prior to and during the change. The individual unlearning process can be positively affected by providing appropriate, timely and useful training and documentation. These organizational factors have a significant and positive effect on the individual unlearning process and can be used to positively support individuals during the organizational change process and ultimately, drive successful systems implementations. The ability for organizations to innovate through implementation of new enterprise technology systems

is important in attaining and sustaining growth and just one of the ways to obtain competitive advantage. Other methods of obtaining and sustaining competitive advantage in the context of unlearning are highlighted in the next subsection.

Individual unlearning and competitive advantage. One way to increase acceptance of the unlearning concept is to demonstrate its positive relationship to competitive advantage and performance for entrepreneurs and their organizations. An economy benefits greatly from the competitive advantage that organizations experience. Scholars continue to seek evidence that learning promotes competitive advantage. Knowledge generated by learning, if it is not easily reproduced by other organizations, creates a competitive advantage for an organization (Hatch & Dyer, 2004). This implies that how entrepreneurs and their organizations learn, how they accumulate and exploit learning, may be a significant source of competitive advantage. Zack (1999) articulated it this way:

Knowledge is not static and what is innovative knowledge today will ultimately become core knowledge of tomorrow. Thus, defending and growing a competitive position requires continual learning and knowledge acquisition. The ability of an organization to learn, accumulate knowledge from its experiences, and reapply that knowledge is itself a skill or competence that – beyond the core competencies directly related to delivering its product or service – may provide strategic advantage (p. 134).

Innovative knowledge allows organizations to direct the industry and their competition and to distinguish itself extensively from the competition (Zack, 1999). Since knowledge

is gained through learning and unlearning, unlearning is important to an organization's competitive advantage.

Academics desire to understand the how unlearning influences intellectual capital. Human capital, structural capital and relational capital combine to make up intellectual capital (Cegarra-Navarro & Moya, 2005). Cegarra-Navarro and Dewhurst (2006) combine human capital, customer capital and relational capital to produce intellectual capital. Intellectual capital has also been defined as the result of converting knowledge into profit (Sullivan, 2000). This important collection of all knowledge in an organization can be used to gain a competitive advantage (Edvinsson, 1997). Human capital is knowledge, capabilities, skills and talents of all employees of an organization (Roos et al., 1997; Saint-Onge, 1996). Customer capital involves the customers or clients of a firm (Cegarra-Navarro & Sanchez-Polo, 2007). "Structural capital encompasses codified knowledge, procedures, processes, goodwill, patents and culture" (Cegarra-Navarro & Moya, 2005, p. 164). Relational capital is relationships and the knowledge gained from the association and involvement that individuals in an organization have with its customers and its environment (Bontis & Fitz-Enz, 2002) or the value derived from relationships that a company sustains with the environment (Buenos, 1998; Brooking, 1996). This definition is extended to include relationships with suppliers, partners and investors (Roos & Roos, 1997), and the reputation and images of the company, and relationships with market brands (Svieby, 1997). Relational capital is important since an organization's associations and connection to the aforementioned entities directly affects the organization's financial performance. Unlearning is thought to have significance to the management of these relationships in that, individuals' current

behaviors and attitudes may need to be jettisoned in order to bring new meaning to the value of these relationships as the environment changes, the needs of customers change, and vendors, partners and investors, or market conditions change (Cegarra-Navarro & Moya, 2005). Thus, the effect of unlearning on intellectual capital could have significance to how individuals understand and relate to customers.

The first study reviewed relating to competitive advantage is by Cegarra-Navarro and Moya (2005). They explored the relationship between unlearning and intellectual capital by testing the effect of individual unlearning on group unlearning, the effect of group unlearning on human and structural capital, and ultimately, the effect of human and structural capital on relational capital. The authors believe that intellectual capital and the ability to remove obsolete intellectual capital (human, structural and relational capital) lead to increased firm performance. Extension of the examination of unlearning and its affect on firm performance is an important aspect of the study.

Cegarra-Navarro and Moya's (2005) quantitative study used structural equation modeling. In the study, where 139 of 220 Spanish optometry companies participated, Cegarra-Navarro and Moya (2005) tested two causal relationship paths of the effect of individual unlearning on firm performance: (a) individual unlearning influences group unlearning, which influences human capital, which influences relational capital, which influences firm performance; and (b) individual unlearning influences group unlearning, which influences structural capital, which influences relational capital, which influences firm performance. Individual unlearning, here, was measured with three items using a Likert scale (see Table 2.1).

The data revealed that individual unlearning influences group unlearning; group unlearning negatively influences human capital, though not significantly; human capital significantly influences relational capital; and relational capital influences firm performance. In the second portion of the structured equation, human capital is replaced with structural capital where group unlearning influences structural capital; structural capital significantly influences relational capital.

The authors positioned the unlearning process as a management tool an organization can use to advance its learning potential while suggesting, however, that unlearning cannot be created or directly controlled by management. Unlearning is experientially created through interactions and associations. It is lost when individuals leave, groups adjourn and applications wane and can, therefore, be overwhelming to facilitate in individuals. It is suggested that organizations could benefit more from investment in the effect that group unlearning has on structural capital – the use of databases and other storage devices to safely store and make relevant, useful and important company information and knowledge accessible. Organizations could benefit from understanding how existing procedures, processes and rules can be used to facilitate group unlearning.

A second study relating to competitive advantage is by Cegarra-Navarro and Dewhurst (2006) who sought to understand the relationship between individual unlearning, teamwork and management and organizational unlearning, and the relationship between organizational unlearning and relational capital. The purpose of the study was to explore the value of removing obsolete knowledge in relation to the value of accumulating knowledge in organizations. Unique knowledge in organizations is

considered a competitive advantage, while too much knowledge may be a barrier to organizational learning. The study sought to determine whether individual and organizational unlearning influences the acquisition of knowledge an organization gains from its relationships with such external stakeholders as customers, suppliers, partners and investors.

Cegarra-Navarro and Dewhurst's (2006) quantitative study involved 139 of 220 (63% response rate) Spanish optometry businesses using a 15-item questionnaire. Structural equation modeling was employed to test and estimate causal relationships between individual unlearning and other variables. Individual unlearning, here, was measured using three items on a Likert scale (see Table 2.1).

The goal of the study was to determine if individual unlearning influences organizational unlearning and if organizational unlearning, as a prior step in the production of relational capital, is mediated by the role of management and teamwork. The data showed that: a) organizational unlearning positively and significantly influences relational capital as a prior step in the learning cycle; b) the role of both management and teamwork positively influence organizational unlearning as a prior step in the learning cycle; c) when organizational unlearning is not a prior step to learning, there is a negative effect on relational capital; and d) there is a positive, though not significant, relationship between individual unlearning and organizational unlearning.

Cegarra-Navarro and Dewhurst (2006) drew several conclusions from these findings. Organizational unlearning emerges when management creates an environment that nurtures it and when effective teamwork exists to cultivate it. An organization's development of knowledge about its customers can enhance how its employees engage

and support its customers. The organization must produce an environment that causes individual unlearning, purposefully removing outdated knowledge about how customers think and buy. Significantly, since it is during individual unlearning that new ideas are generated, unlearning in an organization can give a company competitive advantage, but only if all members of the organization engage in and accept the practice of unlearning, otherwise, individual behaviors, how teams work and, ultimately, the organization can be negatively affected.

The third and final study relating to competitive advantage is by Cegarra-Navarro and Sanchez (2007) who conducted research focused on the relationship between relational capital and unlearning through a concept referred to as organizational relearning. In organizational relearning, individuals and internal departments of organizations make connections with each other and then reconsider, re-examine and, ultimately, relearn ideas and concepts that they believe they already know. The organizational relearning process involves a continual renewal in order to help organizations anticipate and respond to change (Amzi, 2008). The study was an examination of the use of unlearning in reengineering employee's perceptions of customers.

Cegarra-Navarro and Sanchez (2007) studied managers or general directors in 195 of 665 small- and medium-sized enterprises (10-249 employees) in the telecommunications industry. The study used structural equation modeling to understand if individual unlearning as a prior step to the learning cycle has an effect on relational capital through organizational relearning.

The data suggest that individual unlearning as a prior step in the learning process mediated by organizational relearning significantly influences relational capital. Individual unlearning only slightly influences relational capital directly without the mediation of organizational relearning. Organizational relearning only slightly influences relational capital when individual unlearning is not a prior step in the learning cycle. Cegarra-Navarro & Sanchez (2007) measured unlearning using three items on a Likert scale (see Table 2.1).

Cegarra-Navarro & Sanchez (2007) suggest that the findings indicate that individual unlearning can have an indirect effect on how employees view customers, suppliers, partners and investors through organizational relearning. This implies that organizations can facilitate individual unlearning by cultivating an environment conducive to employees questioning their currently held beliefs and values. The authors also suggest that the results show a direct effect of individual unlearning on relational capital indicating that employees may engage with customers based on their own erroneous beliefs and value systems. Organizations must be willing to be involved in realigning individual employee perceptions of customers with organizational values and must undertake the task of reengineering individual employee perceptions of customers, how they buy and why they buy. These findings and conclusions are consistent with Cegarra-Navarro and Dewhurst's (2006) study previously reviewed here.

Table 2.1

Unlearning & Relational Capital Studies – Hypotheses & Measurements

Unlearning and Relational Capital		
Cegarra-Navarro and Dewhurst (2006)	Cegarra-Navarro and Sanchez (2007)	Cegarra-Navarro and Moya (2005)
<p>Hypotheses</p> <p>a) Individual unlearning → Organizational Unlearning</p> <p>b) Management → Organizational Unlearning</p> <p>c) Teamwork → Organizational Unlearning</p> <p>d) Organizational Unlearning → Relational Capital</p>	<p>Hypotheses</p> <p>a) Individual unlearning → Organizational Unlearning</p> <p>b) Individual Unlearning → Relational Capital</p> <p>c) Organizational Unlearning → Relational Capital</p>	<p>Hypotheses</p> <p>a) Individual unlearning → Group Unlearning → Human Capital → Relational Capital → Firm Performance</p> <p>b) Individual unlearning → Group Unlearning → Structural Capital → Relational Capital → Firm Performance</p>
<p>Measurement</p> <p>Likert scale (1-strong disagreement – 7-strong agreement):</p> <ol style="list-style-type: none"> 1. Employees participate in the definition of the content of their job 2. Employees do not conceal their mistakes 3. Employees identify with the company and have high job satisfaction <p>(p.52)</p>	<p>Measurement</p> <p>Likert scale (1-high disagreement – 7-high agreement):</p> <ol style="list-style-type: none"> 1. Employees identify problems 2. The company is prepared to change working practices 3. New and novel approaches are considered <p>(p. 45)</p>	<p>Measurement</p> <p>Likert scale (1-high disagreement – 7-high agreement):</p> <ol style="list-style-type: none"> 1. Employees identify problems 2. The company is prepared to change working practices 3. New and novel approaches are considered <p>(p. 165)</p>

These three empirical studies (Cegarra-Navarro & Moya, 2005; Cegarra-Navarro & Dewhurst, 2006; Cegarra-Navarro & Sanchez, 2007) highlight the importance of unlearning in the context of relational and other capital. The studies suggest that unlearning has significance in the accumulation of knowledge pertaining to relational and

other capital, and that relational capital positively influences firm performance or competitive advantage. Significant for this present work, the findings of the studies imply that individual unlearning is less likely if not fostered by and within the context of an individual being a part of an organization. This is consistent with Fiske and Taylor's (1991) belief that schema change or disconfirmation is more likely to occur when the individual is a member of a group of individuals with different social categories. When these individuals are brought together, disconfirming data weakens the habitual schema of the individual causing unlearning and change to take place. Individual unlearning was measured similarly for two of the three studies and simplistically with just three items for all three studies. The next set of studies measures the unlearning construct using different and more complex ways.

Individual unlearning measured by Kurt Lewin's change model. Change theorist and psychologist, Kurt Lewin, first introduced the concept of unlearning in the context of group and organizational decision making and change in the 1940s with his "unfreeze-move-refreeze" change model. Though developed in the context of groups and organizations, the model aligns well with individual learning and is important for individual learning since organizational change – learning and unlearning – only happens as members of organizations change (Hedberg, 1981).

The unfreeze phase unlocks the current mental framework, opening it to change (Lewin, 1958). Here, current behaviors, beliefs and attitudes are challenged and disconfirmation of the current schemas-in-use takes place (Schein, 1987). Guilt and anxiety subsist during this phase, often rendering the individual or organization unproductive for a period of time (Schein, 1987). The individual begins to experience

learning anxiety (Schein, 1996; Akgün et al., 2007b). This implies that the individual has been exposed to information that is contrary to his or her existing set of knowledge and begins to question underlying assumptions that are the underpinning of current beliefs. This exposure equates to the turbulence (Akgün et al., 2006), crises (Fiol & Lyles, 1985), failures, dissatisfaction, aggravation (Schein, 1993), or problems (Cegarra-Navarro & Moya, 2005) that have been identified as triggers or antecedents to unlearning. It is during this phase that the individual begins to develop or use defense mechanisms and reasons for resisting change (Schein, 1996). Schein (1987), in his elaboration of Lewin's change model, believes that the three phases of unlearning – unfreeze, move, refreeze – overlap. He further suggests that during the unfreeze phase, an atmosphere of psychological safety must be cultivated in order for the individual to feel comfortable continuing on into the move phase.

The move phase of Lewin's change model is a transitional phase. It is during this phase that individuals undergo cognitive reform and change in mental structures while taking on new definitions of judgment, perceptions and interpretations (Akgün et al., 2007b). In other words, a change in the person's frame of reference actually takes place here. According to Schein (1987), a cognitive reorganization occurs. The person begins to openly consider other points of views and scan his or her environment for new and relevant information that might support their transition to the refreeze phase.

The refreeze phase, acts as a seal on the change. The individual adapts new mental models as supportive norms are developed and congruency with his or her personality is reached (Akgün et al., 2007b). The final stage helps the person integrate the changes to become comfortable with their own self-concept (Schein, 1987). Here,

practicing new behaviors and functions, openly engaging with others about the change, getting feedback and making adjustments take place.

Importantly, entrepreneurial learning itself can be likened to the unlearning process (Lewin's unfreeze-move-refreeze). Entrepreneurial learning is a dynamic process synonymous with the combining of an entrepreneur's past experiences (unfreeze) and his or her development of future entrepreneurial knowledge (refreeze), intermediated by the transformation of the entrepreneur's experiences into knowledge (move) (Politis, 2005). This allows proper focus to be placed on the transformative nature of entrepreneurial learning (Minniti & Bygrave, 2001), while also allowing the appropriate highlight of the transformative nature unlearning.

Akgün, Byrne, Lynn, & Keskin (2007b) established grounds for partitioning unlearning into the phases of Lewin's change model. They posit that the fundamental components of unlearning are changes in beliefs and changes in routines; that is, changes in thinking and perceptions followed by changes in action. Cegarra-Navarro and Sanchez-Polo (2008), Cepeda-Carrion, Cegarra-Navarro, and Jimenez-Jimenez (2010) and Cegarra-Navarro, Sanchez-Vidal and Cegarra-Leiva (2011) agree that the Lewin's three-step model sets the context for individual unlearning and aligns it to be measured in three dimensions which correspond to the dimensions of Lewin's unfreeze-move-refreeze model. Cegarra-Navarro and Sanchez-Polo (2008, p. 1614) outline the phases thusly:

1. Unfreeze – The examination of lens fitting, which refers to an interruption of the employees' habitual, comfortable state of being, and it is through such framework that individuals of an organization will have access to new perceptions;

2. Move – The framework for changing the individual habits, which refers to the challenge of inhibiting wrong habits when an individual has not only understood the new idea, but is quite motivated to make the change; and
3. Refreeze – The framework for consolidating the emergent understandings, which refers to the organizational process that can free employees up to apply their talents by implementing new mental models based on adaptation to new knowledge structures.

The first study reviewed here using Lewin's change model is by Cegarra-Navarro and Sanchez-Polo (2008). They refer to individual unlearning as forgetting and examined the relationship of the three dimensions of unlearning to each other and to customer capital. They draw from a different definition of customer capital – the value a company receives from its relationships with its customers (Duffy, 2000) than noted previously. Here, customer capital is produced whenever any employee of an organization is exposed to its end-customers (Bontis et al., 2000). Cegarra-Navarro and Sanchez-Polo (2008) posit that customer capital is enhanced by employees' ability to forget prior experiences with customers that shape their current perceptions of how and why customers buy. Learning organizations, companies that are grounded in acquiring and exploiting knowledge, will rapidly respond to customer needs and actively shape customer expectations of their products and services (Lei et al., 1999). They manage learning and unlearning in the organization to reengineer the thinking of their employees as it relates to customer capital and how they view customers.

Cegarra-Navarro and Sanchez-Polo (2008) studied 130 of 220 Spanish optometry companies with 229 sellers within those companies completing a questionnaire. The survey included 12 items with the purpose of understanding if there is a correlation between unlearning and customer capital. The structural equation modeling approach was employed to test and estimate the relationship of four variables including individual unlearning or forgetting (examination of lens fitting, framework for changing individual habits, and consolidation of emergent understandings) and customer capital.

Though there is an indirect correlation between the first two dimensions of unlearning and customer capital, the direct significant correlation between the third dimension of unlearning and customer capital is more important in understanding that organizations must facilitate the unlearning process in order to ensure that value is brought to the organization through customer capital – knowledge about the customer. Cegarra-Navarro and Sanchez-Polo (2008) interpreted the findings as suggesting that companies must facilitate an environment for lens fitting, helping individuals manage information in ways that evoke meaning and context relative to customers and how to interact with customers. Further, they suggest that the findings imply that individual hindrance to learning must be overcome before an organization can implement new and collective learning strategies. Organizations must understand how individuals and groups can be encouraged to think outside of traditional limitations that may exist and how to make knowledge structures more apparent. This is congruent with the conclusions of Cegarra-Navarro and Dewhurst (2006) and Cegarra-Navarro and Sanchez (2007) discussed earlier.

The second study using Lewin's change model reviewed here is by Cepeda-Carrion, Cegarra-Navarro, and Jimenez-Jimenez (2010). They examine the relationship between individual unlearning, absorptive capacity and several other concepts. The study is important to this present work since innovation is considered one of the driving forces to organizational success (Sinkula, 2002) and absorptive capacity enables and supports innovation (Cohen & Levinthal, 1990). Unlearning facilitates absorptive capacity (Cepeda-Carrion et al., 2010). Absorptive capacity is an individual's or organization's ability to incorporate and manage new knowledge into their existing set of knowledge and apply that knowledge in order to improve individual or organizational success (Cohen & Levinthal, 1990). An individual or firm with high absorptive capacity accumulates and applies new knowledge effectively. The appropriate knowledge must already exist in order to productively receive and use (absorb) new knowledge. This involves the ability to learn (acquire new knowledge) and unlearn (remove unnecessary knowledge) (Rebernik & Sivec, 2007). The ability to discover the value of new information, incorporate it and exploit it in order to profit is enabled by prior related knowledge (Cohen & Levinthal, 1990). This process prepares the individual and the organization for new business opportunities by enabling them to be constantly innovating and changing. Cepeda-Carrion et al. (2010) purport that a firm's ability to make effective use of knowledge is enabled by the ability for individuals in the organization to unlearn outmoded knowledge that may be blocking the acceptance of new knowledge, thus hindering the firm's innovation capabilities. Thus, unlearning ultimately enables individual and firm innovation.

Cepeda-Carrion et al. (2010), with an interest in the effect that unlearning had on absorptive capacity, studied 286 of 2160 Spanish companies with 100 or more employees. Structural equation modeling was employed to test and estimate the relationship between absorptive capacity (potential absorption and realized absorption) and unlearning (examination of lens fitting, framework for changing individual habits, and consolidation of emergent understandings). Relationships of other constructs were also considered but are not relevant to this present study. The goal of the study was to determine if absorptive capacity mediates unlearning and organizational innovativeness.

Cepeda-Carrion et al. (2010) suggest that the findings highlight the importance of unlearning in the creation, application and transfer of new knowledge into innovative ideas and final products and services. This transfer of knowledge is enhanced by the existence of effective information systems to track important internal and external information to be used by individuals in the knowledge absorption process. The examination of the information systems capacity suggests that companies could benefit from investing in efforts to develop and implement databases and other storage devices to assist in tracking existing procedures, processes and guidelines that can be used to facilitate unlearning. This is congruent with Cegarra-Navarro and Moya's (2005) structural capital assertion discussed earlier in this chapter.

The Cepeda-Carrion et al. (2010) study advances the research on unlearning as an indirect influence on innovation supporting the idea that individuals must unlearn old ways of thinking in order to allow generation, manipulation and acceptance of new and innovative ideas, particularly in dynamic environments. Cepeda-Carrion et al. (2010) suggest that innovative firms – firms that produce many new products, processes and

services – must demonstrate high levels of agility, always being prepared to change and accept new ideas and approaches since they are often faced with constantly shifting environmental conditions, intense competition and rapidly changing technology. The researchers believe that, with Lewin’s change model, acceptance of new ideas disrupts an individual’s habitual, comfortable state. The model includes cultivating an environment that supports and enables unlearning as an activity. The findings validate the importance of this support in the generation of innovative ideas. Unlearning assumes that previous knowledge about a topic, idea or concept already exists, and that what we already know conjoins and “cross-contaminates” in disparate and capricious ways with what we are attempting to absorb (Cepeda-Carrion et al., 2010). Thus, though unlearning may be difficult, it is vital for individuals who work in environments that constantly seek innovation.

The third and final study review using Lewin’s change model is by Cegarra-Navarro, Sanchez-Vidal and Cegarra-Leiva (2011). They propose unlearning outmoded knowledge and absorbing new knowledge as an approach to realizing the appropriate balance necessary between exploratory and exploitive processes. This is important in organizations where the creation of new products and entry into new markets are vital to organizational success. These organizations must move from the exploration stage to the exploitation stage rapidly and effectively. The authors hypothesized that: a) the degree to which a company realizes knowledge exploration determines the level of unlearning that takes place, which positively relates to company performance; and b) the degree to which a company realizes knowledge exploitation determines the level of unlearning that takes place, which positively relates to company performance.

Cegarra-Navarro et al. (2011) studied managers from 229 of 832 firms in the metal industry in southeastern Spain. A 32-item survey was employed measuring range of exploration knowledge, range of exploitation knowledge, unlearning and firm performance. The manager's age was added as a control variable using the supposition that older employees are more set in their ways and more likely to resist changing past practice, while younger employees are more likely to adopt innovation (Brancheau & Wetherbe 1990; Nystrom et al., 2002). This is congruent with Becker's (2008) claim that older workers are less likely to engage in unlearning and an important concept for this present study as it pertains to length of prior employment.

The results of the Cegarra-Navarro et al. (2011) study indicated a positive relationship between exploration of knowledge and the dimensions of unlearning, and exploitation of knowledge and the dimensions of unlearning. The findings led the authors to suggest that individuals should learn to listen better to customers; improve their ability to disseminate, understand and respond to the information received from customers; become more receptive to constructive feedback received from customers; and rid themselves of the inclination to reject information that does not agree with their beliefs. The authors also suggest that the existence of old values and attitudes could impede the acceptance of new knowledge and the changing of habitual behaviors. Companies should consider approaches that help individuals absorb new knowledge in ways that cause a move away from traditional and customary ways of perceiving and interpreting information. Finally, the results indicated a significant positive statistical relationship between the framework for consolidating emergent understandings (the third dimension of unlearning) and unlearning itself. This implies that critical problem

definition and solution analysis are necessary to change the focus of the business, redirect product development and business operations, and change the way distribution and marketing are addressed in order to improve the company's competitive advantage.

Importantly, unlearning context for the three studies was measured by elements of Lewin's change model (examination of lens fitting, framework for changing individual habits, and consolidation of emergent understandings) in slightly different ways (Table 2.2). The Cepeda-Carrion et al. (2010) study extended the scales for each dimension. These studies highlight that the ability for individuals to unlearn old ways of perceiving and interpreting information and to absorb and apply the knowledge gained about relationships with customers, suppliers, partners and investors are important in improving organizational performance.

Table 2.2

Unlearning Measured by Lewin's Change Model

Cegarra-Navarro and Sanchez-Polo (2008)	Cepeda-Carrion, Cegarra-Navarro, and Jimenez-Jimenez (2010)	Cegarra-Navarro, Sanchez-Vidal and Cegarra-Leiva (2011)
Likert scale (1-high disagreement – 7-high agreement):	Likert scale (1-high disagreement – 7-high agreement):	Likert scale (1-high disagreement – 7-high agreement):
<i>The examination of lens fitting with respect to your current position:</i>	<i>The examination of lens fitting with respect to your current position:</i>	<i>The examination of lens fitting with respect to your current position:</i>
<ol style="list-style-type: none"> 1. I am able to identify problems (new ways of doing things) easily 2. I am able to see mistakes from my colleagues 3. I am able to listen to my customers (eg complaints, suggestions) 4. I am able to share information with my boss easily 	<ol style="list-style-type: none"> 1. Employees are able to identify problems (new ways of doing things) easily 2. Employees are able to see mistakes from my colleagues 3. Employees are able to listen to my customers (e.g. complaints, suggestions) 4. Employees are able to share information with my boss easily 5. Employees try to reflect and learn from their own mistakes 	<ol style="list-style-type: none"> 1. Employees are able to identify problems (new ways of doing things) easily 2. Employees are able to see mistakes from my colleagues 3. Employees are able to listen to their customers (e.g. complaints, suggestions) 4. Employees are able to share information with their boss easily 5. Employees try to reflect and learn from their own mistakes
<i>The framework for changing individual habits with respect to your personal habits:</i>	<i>The framework for changing individual habits with respect to your personal skills:</i>	<i>The framework for changing individual habits with respect to your personal skills:</i>
<ol style="list-style-type: none"> 5. New situations have helped me visualize my own mistakes 6. New situations have changed my way of thinking 7. New situations have changed my behaviours 8. New situations have supported me questioning my own behaviours 	<ol style="list-style-type: none"> 6. New situations have helped individuals identify their own mistakes 7. New situations have helped individuals recognize undesirable attitudes 8. New situations have helped individuals identify improper behaviours 9. Individuals recognize forms of reasoning or arriving at solutions as inadequate 10. New situations have helped individuals change their behaviours 11. New situations have helped individuals change their attitudes 12. New situations have helped individuals change their thoughts 	<ol style="list-style-type: none"> 6. New situations have helped individuals change their thoughts 7. New situations have helped individuals recognize undesirable attitudes 8. New situations have helped individuals identify improper behaviours 9. Individuals recognize forms of reasoning or arriving at solutions as inadequate 10. New situations have helped individuals change their behaviours
<i>The consolidation of emergent understandings with respect to your organization:</i>	<i>The consolidation of emergent understandings with respect to your organization:</i>	<i>The consolidation of emergent understandings with respect to your organization:</i>
<ol style="list-style-type: none"> 9. Managers seemed to be open to new ideas and new ways of doing things 10. Management has tried to initiate projects and introduce innovations 11. Managers recognize the value of new information, assimilate it, and apply it 12. Managers are prone to collaborate with members of the organization and to solve problems together 	<ol style="list-style-type: none"> 13. Managers seem to be open to new ideas and new ways of doing things 14. Management has tried to initiate projects and introduce innovations 15. Managers recognize the value of new information, assimilate it and apply it 16. Managers adopt the suggestions of personnel in the form of new routines and processes 17. Managers are prone to collaborate with members of the organization and to solve problems together 18. Managers are concerned with the fact that the manner of answering before unforeseen circumstances will be known by all 	<ol style="list-style-type: none"> 11. Managers seem to be open to new ideas and new ways of doing things 12. Management has tried to initiate projects and introduce innovations 13. Managers recognise the value of new information, assimilate it and apply it 14. Managers adopt the suggestions of personnel in the form of new routines and processes 15. Managers are prone to collaborate with members of the organization and to solve problems together

The use of the dimensions of Lewin's change model to measure unlearning represents a significant change in the way unlearning has been measured in earlier research. Better capability to inform unlearning theory exists with this method since it gives researchers the ability to discover meaning in the distinct the phases or dimensions of unlearning. Specifically, researchers can understand how each of the distinct phases of unlearning affects and is affected by other constructs. The following unlearning contextual dimensions can be scrutinized: (a) the interruption of an individual's habitual comfortable state of being when new perceptions are being developed; (b) the challenging of inhibiting wrong habits (the individual has both understood the new idea and is motivated to change); and (c) the implementation of new mental models based on adaptation to new knowledge structures. This is part of an important and considerable underpinning for this present study since the unlearning measure by Cepeda-Carrion et al. (2010) will be used here with permission.

Unlearning enables the learning process. It makes the learning process, dynamic, natural and unconstrained (Wijnhoven, 2001). It is the catalyst for shifting learning from single- to double-loop or higher level learning in order to secure the individual's learning levels (Akgün et al., 2007b). Unlearning may often be necessary in order to affect individual and organizational performance by enabling effective organizational change. Measuring unlearning using Lewin's change model appropriately interconnects learning and change since unlearning is a common element in both (Akgün et al., 2007b). Unlearning is cognitive, dynamic and transformative, allowing the important process of the removal of unnecessary knowledge to ease the amassing of new and necessary knowledge. Notably, Gaglio, and Katz (2001) speak of a similar dynamic and cognitive

process – schema change – that occurs when alert individuals sense uncommon or unanticipated information. Alert individuals’ motivation to be accurate causes them to change their existing schema in order to integrate new, untraditional information. This prepares the way for viewing the symbiotic relationship between unlearning and entrepreneurial alertness. The next few subsections include a review of the body of literature for entrepreneurial alertness.

Entrepreneurial Alertness

Israel Kirzner proposed the concept of entrepreneurial alertness nearly 40 years ago referring to the ability to be entrepreneurially alert as the human inclination to smell opportunities waiting around the corner. More specifically, it is “the ability for an individual to notice, without search, opportunities that have been hitherto overlooked” (Kirzner, 1979, p. 148). Embedded in alertness is decision and action; rather than alertness being a component of the decision making course (Kirzner, 1979). This importantly connects opportunity recognition (decision) and opportunity exploitation (action) to result in the successful creation and deployment of a product or service that meets the needs of a customer, but also helps us understand the importance of the entrepreneur in the entrepreneurial process. “The nexus of opportunity and enterprising individual is critical to understanding entrepreneurship” Venkataraman (1997). The entrepreneur recognizes or discovers (is alert to) opportunities that others do not because they interpret new information differently than others who perceive the same information (Yu, 2001). Gilad et al. (1988) avers that entrepreneurial alertness is like a receiver able to pick up signals that are barely recognizable and ever open to market changes and gaps that lead to opportunities. Though postulated to be necessary for success in

entrepreneurship nearly forty years ago, researchers endeavor to understand entrepreneurial alertness and to position it as an observable construct in order to inform entrepreneurship and entrepreneurial learning theory. Much of what has been presented to date by academics has been anecdotal in nature and untested. Several empirical studies important to the shaping of entrepreneurial alertness as an observable construct will be reviewed in the next few subsections.

In entrepreneurs verses managers. The difference between managers of companies and entrepreneur owners has been investigated for numerous years as a method of understanding who is likely to become an entrepreneur. Various areas of study have involved: personality traits (McClelland, 1961; Utsch et al., 1999; Stewart, Jr. et al., 1999; Stewart Jr. & Roth, 2007); heuristics (Busenitz & Barney, 1997); types of work and roles (Dunphy, 1993); attributional style (Papalexandris & Galanaki, 2009); and cognition (Baron, 1998; Carland & Carland, 1992; Baron, 2004; Katz, 1992; Gaglio & Katz, 2001). Entrepreneurial alertness is among the important cognitive elements necessary for recognizing entrepreneurial opportunities (Gaglio & Katz, 2001). After its introduction, Kaish and Gilad (1991) were the first to develop a measure and test entrepreneurial alertness as an observable construct, using it to compare the thinking tendencies of entrepreneurs to managers. They hypothesized that there were clear differences in how and why entrepreneurs recognized opportunities as compared to managers in corporations suggesting that entrepreneurs have more general alertness and are likely to use non-traditional business sources and cues than managers. Further, unlike managers, entrepreneurs do not purposely scan for opportunities. This is consistent with Gaglio and Katz's (2001) postulation that alert individuals have more complex schemas

than non-alert individuals causing them to analyze data differently and be more alert.

Kaish and Gilad (1991) believed entrepreneurial alertness to be the result of an entrepreneur's inclination to recognize market gaps rather than an outcome of a problem solving activity. They set forth to understand how entrepreneurs position themselves to encounter opportunities. This quest called for understanding: (a) the activities that entrepreneurs perform to increase their awareness of an opportunity; (b) the information sources to which entrepreneurs exposed themselves in order to increase the possibility of encountering an entrepreneurial opportunity; and (c) the features of the information received that cause entrepreneurs to notice that an opportunity exists: general alertness, information sources and information cues.

Kaish and Gilad's (1991) study compared 51 company founders to 36 company executives of a large financial corporation. Three subscales were used in the study. First, the alertness subscale included 12 items to measure the individual's general alertness to opportunities. Five of the items in the subscale questioned the amount of time the individual devoted to searching. The nature of items themselves distinguished between verbal and non-verbal (reading and thinking) alertness. Non-verbal items connoted a higher level of alertness since they implied that the search was not deliberate. Second, the information sources subscale asked the individual to rate the importance of a list of sources of information that would be used to develop a new idea. Twelve sources were listed (eight personal and four published). The sources were subdivided into trusted, immediate, remote and untraditional sources. Use of non-traditional sources connoted a higher level of alertness. Finally, the information cues subscale was intended to determine the information that ignites the attention of the respondent causing his or her

awareness of new ideas. Nine items were listed and individuals were asked to respond to the following question: “When you look for new opportunities, what kind of information will get you interested immediately”? (p. 54). These items were separated into familiarity cues, risk cues and economic cues. Risk cues were considered prompts that would interest highly alert individuals. Thus, entrepreneurial alertness is positioned as an ability to situate oneself to be ready to recognize market disequilibrium rather than the outcome of problem solving.

The results indicated that entrepreneurs are more likely to use non-verbal searches and non-traditional sources (patent filings and strangers), and respond to risk cues than executives. Executives are more likely to use sources that have direct input to the business (i.e. staff, professional acquaintances, clients and consultants) and respond to economic cues (i.e. the end result, profit and market size) than are entrepreneurs.

Entrepreneurs are more likely to pay more attention to implementation issues, who is involved in the deal, the role of government and investment details or sources of money. Entrepreneurs tended to pursue ideas more privately through extensive reading, reflection and introspection than executives, though they both appear to use socially interactive verbal searches. They both prefer talking business during off-hours with the goal of finding opportunities, but the entrepreneur constantly scans the environment using different forms of media, often without even realizing that they are doing so.

Entrepreneurs tend to be more subjective in their evaluation of an idea and rely less on conventional economic analyses. These findings are consistent with Gaglio and Katz’s (2001) postulation that entrepreneurs have and use an alertness schema which allows or causes them to be more perceptive of market signals; more apt to change their schema

when conflicting information is received; more likely to seek accuracy; more apt to develop and use complex cognition about market conditions, their industry or the social climate; and more apt to employ counterfactual thinking to undo existing causal links that would hinder their sensitivity to market conditions.

Kaish and Gilad (1991) suggest from findings that as entrepreneurs become more experienced, they trust themselves and their own instincts more and tend to depend less on input from others. Entrepreneurs, during the early stages of the entrepreneurial career purposefully search for new ideas and opportunities, but as they become more experienced as entrepreneurs, they tend to do less purposeful scanning – they become more entrepreneurially alert. This is consistent with Kirzner's (1979) thinking that entrepreneurial alertness is being aware of opportunities without a purposeful search for them. Executives tend to start with what is already known and expected, and develop traditionally acceptable concepts. Entrepreneurs, on the other hand, are open to more unconventional information and concepts, and are alert to less obvious indications of opportunities. The study gives us insight into how ideas tend to emerge in entrepreneurs and what information entrepreneurs use to become aware of and develop opportunities.

This first attempt at testing entrepreneurial alertness had several limitations due to questionable sampling techniques resulting in generalizability issues (Kaish & Galid, 1991; Busenitz, 1996). The sample for the study was not random and the sample size was small. Furthermore, non-respondents of the study were not analyzed and the executive respondents were selected from only one large corporation. The reliability of some of the scales were outside of standard ranges. These limitations put in question the statistical power of the study.

Busenitz (1996), seeking to further develop the concept of entrepreneurial alertness with increased statistical power and reliability, retested entrepreneurial alertness theory using a larger, more generalizable sample because of the limitation of Kaish and Gilad's (1991) study. He again compared entrepreneurs and managers. A sales tax file from a state controller's office was used to identify and select firms in manufacturing and wholesale that were in the early stages of the venture. One hundred and seventy-six of the 573 firms that were invited participated in the study. Identifying entrepreneurs has typically been challenging, thus it was required that the respondents be founders of their firm and that they be currently involved in the start-up process. They must have started the organization within the previous two years and/or be planning to start a new venture within the next five years. After these restrictions, the number of useable responses was reduced to 124. Managers in the study were required to work for publically owned firms with 10,000 or more employees and have responsibility for at least two functional areas (often referred to as division or general managers). Two of three firms agreed to participate resulting in a response rate of 54%.

Busenitz (1996) retested Kaish and Gilad's (1991) subscales, but only for alertness and information cues. New items were added to both subscales after factor and reliability analyses. Busenitz (1996) included a comparison of the results of their own study with data from the Kaish and Gilad (1991) study. It appears that both studies suffered from similar sampling, variability, reliability, instability and generalizability issues, though there were some improvements in the data resulting from the Busenitz (1996) test. This suggested that there was still more work to be done in the development and improvement of Kaish and Gilad's (1991) original entrepreneurial alertness scale in

order to answer the call from experts for more exploratory studies in the field of entrepreneurship to be rigorously replicated and confirmed or challenged (Aldrich, 1992). More work must be done discover a sound method of measuring the construct. To that end, the direction of measuring entrepreneurial alertness changed over the last decade and a half. Researchers measured the construct: as a relationship with attributional styles, with case study interviews about opportunity recognition and examination of firm documents, as perception and interpretation abilities, and finally, as phases of a process. These studies are reviewed in the next several subsections.

In relation to attributional styles. Tang, Tang & Lohrke (2008) used a 2x2 model of personality types (Figure 2.2) based on dimensions of attributional styles and entrepreneurial alertness to predict the characteristics of entrepreneurs. Attributional style involves whether, as a rule, the individual attributes their success as an entrepreneur to internal or external factors. The purpose of the study was to predict the need for achievement, commitment and risk-taking propensity for the four types of entrepreneurs—true believer, clueless, practical and reluctant. Tang et al. (2008) predicted that: (a) true believers exhibited the highest need for achievement followed by clueless, practical and reluctant entrepreneurs; (b) true believers have the highest commitment to their business, while reluctant entrepreneurs exhibit the lowest commitment, and clueless and practical entrepreneurs have moderate commitment to their businesses; and (c) true believers demonstrated the highest risk-taking propensity, followed by clueless, practical and reluctant entrepreneurs. The study ass an attempt to examine what Shane and Venkataraman (2000) believe to be the fundamental issue in the

study of entrepreneurship – why individuals are more or less likely to recognize and exploit opportunities.

		Attributional Styles	
		<i>Internal</i>	<i>External</i>
Entrepreneurial Alertness	<i>High</i>	True Believer	Practical
	<i>Low</i>	Clueless	Reluctant

Figure 2.2. Attributional Styles versus Entrepreneurial Alertness of Entrepreneurs.

Adapted from Tang et al. (2008, p. 278).

To measure entrepreneurial alertness, respondents were asked: “Which of the following led to your business idea?” (Tang et al., 2008, p. 283). They were allowed to choose from eight answers: (a) It was developed from another idea I was considering; (b) My experience in a particular industry or market; (c) Thinking about solving a particular problem; (d) Knowledge or expertise with technology; (e) My friends and family; (f) Potential or existing customers; (g) Existing suppliers and distributors; and (h) Potential or existing investors or lenders. Note that the available selections are similar to some of the selections from the Kaish and Gilad (1991) informational sources subscale. Answers a) through d) indicates an entrepreneur’s chronic alertness schema is at work implying high alertness, while answers e) through h) suggest that the entrepreneur conducted a deliberate search implying low alertness. The respondents were allowed to choose all answers that applied. If more high alertness items than low alertness items were selected, the respondent was considered highly alert. Conversely, if more low alertness items than high alertness items were selected, the respondent was regarded as representing low

alertness. If the number of high alertness and low alertness values selected were equal, the respondent was “undecided” and was eliminated from the sample.

Data were collected in two phases for the study. The first phase involved identifying 500 males and 500 females who were 18 years of age or older each week by telephoning households nationwide. A random-digit dialing process was employed to contact 64,622 individuals in the United States by phone between July 1998 and January 2000. Here, 1000 nascent entrepreneurs were identified to be respondents for the second phase of the study. In the second phase of the study, the 1000 nascent entrepreneurs were sent to the University of Wisconsin Survey Research Laboratory to respond to a 60-minute phone interview and a 12-page self-administered questionnaire. A cash payment was offered to each respondent who completed the survey. One thousand two hundred and sixty-one respondents (830 nascent entrepreneurs and 431 in the comparison group) were included in the final sample. Surveys where respondents did not answer items or where respondents were undecided on the entrepreneurial alertness question were excluded from the analysis leaving 315 cases.

Tang et al.’s (2008) hypotheses focused on attributional style. In fact, none of their hypotheses for the study related specifically to entrepreneurial alertness. The study resulted in general support for the hypotheses. The data indicated that need for achievement, commitment and risk-taking propensity are significantly related to attributional style, but not entrepreneurial alertness. However, it is important to this present study to review the results for variables on the entrepreneurial alertness continuum – true believer and practical entrepreneurs (high alertness), and clueless and reluctant entrepreneurs (low alertness). True believers have the highest need for

achievement, commitment and risk-taking propensity, but there was no significant difference between true believers and clueless entrepreneurs, or practical and reluctant entrepreneurs as it relates to need for achievement. A similar pattern is shown for risk-taking propensity. This means that entrepreneurial alertness does not interact with attributional style in relation to need for achievement or risk-taking propensity. However, true believers (highly alert individuals) demonstrate a similar level of commitment as reluctant entrepreneurs (individuals who are not highly alert), meaning that, with respect to level of commitment, entrepreneurial alertness interacts with attributional style.

The findings, with respect to entrepreneurial alertness (and its interaction with attributional styles), indicate that alert individuals tend to be highly committed to their business. This conclusion is drawn from combining the following two suggestions: (a) highly alert individuals continuously and subconsciously search for information that will lead to new opportunities by thinking about their business and reading business-related magazines; and (b) highly committed entrepreneurs sacrifice time with family and leisure time to spend more time working on their business. The findings also highlight the distinction between true believers and other types of entrepreneurs. This is important since researchers who study entrepreneurship are most interested in these individuals in order to understand why they are successful at entrepreneurship in comparison to individuals with other attributes (Tang et al., 2008). Importantly, these individuals willingly seek new information and change, and are more likely to disconfirm habitual and chronic schemas and move to change suggesting that these alert individuals are more likely to willingly experience unlearning. These findings are consistent with Gaglio and

Katz (2001) suggestion that alert individuals think and process information differently than non-alert individuals.

With regard to opportunity recognition. Opportunities are a key element in entrepreneurship. Opportunities are the underpinning of the field of entrepreneurship (Shane & Venkataraman, 2000). Opportunity recognition is essential in the creation and growth of new ventures and, thus, to the growth of economies (Kirzner, 1979). It is still not fully understood why some individuals recognize opportunities that others cannot see (Shane & Venkataraman, 2000), though several assertions have been made in extant research. Shane (2000) purports that prior knowledge plays a vital role in the recognition of opportunities. Similarly, Ucbasaran et al. (2008) identify human capital as an important causal element in the opportunity recognition process. Baron (2004) suggests that an entrepreneur's ability to recognize complex patterns in information positions him or her to perceive that an opportunity exists. Gaglio (2004) highlights counterfactual thinking (what-if analysis) as a key element in identifying opportunities. Researchers have also discussed whether opportunities are discovered exogenously based on the entrepreneur's knowledge about existing industries or whether they are created endogenously from the actions of the entrepreneur (Sarasvathy et al., 2005; Alvarez & Barney, 2007). Whether endogenous or exogenous, individuals must be alert, since alertness ensures that the entrepreneur possesses and translates appropriately the information about market conditions that, when inculcated with existing information, will cause the reorientation of his or her meaning in order to recognize the opportunity (Valliere, 2011). Entrepreneurial alertness, therefore, is at work and necessary in the

recognition of entrepreneurial opportunities. One study concerned with entrepreneurial alertness and its relationship to opportunity recognition is reviewed next.

Ardichvili and Cardozo (2000) examined entrepreneurial alertness in the context of the opportunity recognition process. Their case study design method included 20 experienced entrepreneurs who had successfully launched at least one venture. After interviewing eight respondents, interviews were suspended with the conclusion that additional interviews would not have generated significantly new findings. The study used interviews and document analysis to test, among other things, whether a high level of entrepreneurial alertness correlates with successful opportunity identification. The researchers were unable to determine the alertness of the respondents using only simple qualitative (interview) methods so they reviewed other documents about the person and organization including product information, promotional materials, business plans, news articles, press releases, patents, reports from Wall Street analysts and information from the internet. The findings suggested that six of the eight entrepreneurs:

...displayed strong propensity to notice and be sensitive to information about incidents and patterns of behavior in the environment. They were constantly thinking about opportunities around them, even when they did not have a need or time to start another venture. In contrast, the other two seemed not to be as alert to a variety of opportunities around them, and were content with concentrating on a job at hand. (Ardichvili & Cardozo, 2000, pp. 112-113).

Ardichvili and Cardozo (2000) concluded that the ability to be entrepreneurially alert and the existence of strong networks and prior knowledge of markets and customer

problems precipitate opportunity recognition, and that opportunities are noticed through informal recognition rather than purposeful exploration. The findings positively correlate entrepreneurial alertness to opportunity recognition, strengthening the need to understand whether a nascent entrepreneur can develop an alertness schema, transforming his or her existing habitual non-alertness schema into an alertness schema which Gaglio & Katz (2001) believe successful entrepreneurs have. Moreover, since the specific existence of prior knowledge of markets and customer problems is positively correlated with opportunity recognition, there is a need to understand whether the existence of other types of prior knowledge (i.e. knowledge about the ways to serve markets) hinders opportunity recognition driving the need to unlearn that knowledge in order to yield success. Theoretical advancement of opportunity recognition is important and lies, in part, in the ability to transition understanding of entrepreneurial alertness into a cognitive process, hence a review of research that positioned entrepreneurial alertness as perception and interpretation (cognitive) abilities is covered in the next subsection.

As perception and interpretation abilities. Gaglio and Katz (2001) attempted to mature the operationalization of entrepreneurial alertness after both the Kaish and Galid (1991) and Busenitz (1996) studies presented less than favorable psychometric property data. Gaglio and Katz (2001) suggest that entrepreneurial alertness encompasses two heuristically-based cognitive abilities: perception ability – the awareness and accuracy of one’s view of market conditions, and interpretation ability – an entrepreneur’s ability to synthesize unrelated information to produce new frameworks. These abilities allow an entrepreneur to recognize when social changes in the market have arisen causing the existing approaches to producing and disseminating goods and services or the goods and

services themselves to no longer work. While, learning is improved by the generation numerous and varied interpretations (Nevis et al., 1995), unlearning and the desire to unlearn influences the development of multiple interpretations using the nexus between disparate and new ideas, and old ideas (Huber, 1991). These important assertions build the case for seeing unlearning as analogous to and necessary for the subsistence entrepreneurial alertness. Two studies concerned with perception and/or interpretation ability are reviewed next.

The first study pertaining to perception and interpretation abilities is by Hsieh, Kelly and Liu (2009). They tested entrepreneurial alertness by measuring an entrepreneur's perception ability and interpretation ability as proposed by Gaglio and Katz (2001). The purpose of this study was to examine the relationships between an individual's prior knowledge, sources of information from social networks, entrepreneurial alertness and recognition of innovative opportunities. Hsieh et al. (2009) hypothesized that an entrepreneur's: (a) prior knowledge is positively related to his or her perception ability and interpretation ability; (b) information accessed from social networks is positively related to his or her perception ability and interpretation ability; (c) perception ability and interpretation ability are both positively associated with opportunity innovativeness; and (d) alertness (perception ability and interpretation ability) mediates the relationship between his or her prior knowledge and the innovativeness of opportunities.

After pilot testing the survey with founders of startups in university incubators, the researchers employed a mail survey of nascent entrepreneurs in Taiwan. The respondents had registered their businesses between June 2008 and November 2008 and

were founders of start-ups. Structured questionnaires were mailed to 1000 nascent entrepreneurs who were randomly selected from 14,978 entrepreneurs. Over a period of two months, 114 valid surveys were returned. The average age of the respondents was 40.27, 77.7% of the respondents were male, and their length of work experience was 14.5 years.

Hsieh et al. (2009) used six (three each) undisclosed items to measure the perception ability and interpretive ability as elements of entrepreneurial alertness. The results reflected partial support for the hypotheses detailed above. The researchers offered several implications of the findings of their study. The researchers suggested that prior knowledge of customer problems and markets positively affects both perception and interpretation abilities (alertness). This implies that entrepreneurs who have prior knowledge of customer problems and market are more likely to demonstrate entrepreneurial alertness; they are more sensitive to market conditions and changes. This is consistent with the finding by Ardichvili and Cardozo (2000) highlighted earlier. It is important to note that no correlation was found to exist between entrepreneurial alertness and prior knowledge of ways to serve markets or technology, suggesting that not all pre-existing knowledge sensitizes an entrepreneur or ignites their alertness. This could signify that this category of prior knowledge is outdated or outmoded and that the entrepreneur could be well served by unlearning it. This is also consistent with the finding by Ardichvili and Cardozo (2000) highlighted earlier.

The findings by the Hsieh et al. (2009) indicated that social sources of informal industry networks are positively associated with both perception and interpretation abilities. This implies that alert entrepreneurs are acutely aware of their suppliers,

investors and customers, and the new business information they ascertain from them. They are more sensitive to market conditions and changes because of this new business information. The strength of this alertness to suppliers, investors and customers implies that the alert entrepreneur understands the needs of these suppliers, investors and customers, and uses that information to identify and exploit opportunities. This is consistent with the Cegarra-Navarro and Dewhurst (2006) and Cegarra-Navarro and Sanchez (2007) studies reviewed earlier in this chapter which support a positive association between relational capital (relationships with customers, suppliers, partners and investors) and unlearning. The authors assert that this association gives the entrepreneur who unlearns a competitive advantage.

The findings by the Hsieh et al. (2009) also indicated that there is a positive relationship between interpretation ability and innovativeness of opportunities, but not perception ability and innovativeness of opportunities. Entrepreneurs must do more than simply observe and be accurate concerning their observation of the market (perception ability). They must synthesize and connect unrelated, complex, and varied information to produce new frameworks in order to recognize innovative opportunities (interpretive ability). Hsieh et al. (2009) assert that integration of information is the basis for the creation of new business models, products, processes, and technologies and that complex schemas about the entrepreneur's industries may impact his or her ability to connect diverse, unrelated information to discover viable innovative opportunities. Gaglio and Katz (2001) refer to this as the alertness schema. We will see later that the interpretive ability element of entrepreneurial alertness—the synthesizing of unrelated, complex, and varied information—is measured differently by Tang et al. (2010).

Finally, Hsieh et al. (2009) concluded that entrepreneurial alertness partially mediates the relationship between prior knowledge of markets and opportunity recognition. The interpretive ability element of entrepreneurial alertness – the synthesizing of unrelated, complex, and varied information – mediates the two variables. This finding is particularly significant since it gets at the very essence of entrepreneurial alertness as proposed by Kirzner (1979) – when an entrepreneur is alert to market disequilibria he or she recognizes innovative opportunities. The researchers conclude that when an entrepreneur is knowledgeable about market disequilibria and synthesizes these unrelated, complex, and varied sets of market information, he or she is more likely to recognize innovative opportunities. One can also conclude, since the interpretive ability element of entrepreneurial alertness is involved, that a complex schema, unique to the entrepreneur, is at work here. Again, Gaglio and Katz (2001) refer to this as the alertness schema.

A second study based on perception ability is by Aviram (2010). Perception ability, again, is the awareness and accuracy of one's view of market conditions. According to Aviram, the alert entrepreneur is not vulnerable to distortions and inaccuracies produced by market uncertainty. Aviram hypothesized that an entrepreneur launches a new venture because of the existence of entrepreneurial awareness and entrepreneurial alertness (perception ability). Awareness causes the individual to recognize the opportunity and alertness causes the individual to exploit the opportunity. Aviram sought to understand if awareness and alertness are two separate constructs or two components of the same construct. This was evaluated against personality traits:

need for achievement, proactiveness, propensity and self-efficacy. Awareness consisted of the following opportunity factors: feasibility, profit, professionalism, and risk-taking.

Aviram's (2010) hypotheses were tested using four stages. In stage one, 26 opportunities were chosen from financial newspapers and assembled into a brochure. The opportunities included franchising, buying an existing business and several non-traditional opportunities. In stage two, eight experts were asked to assess the opportunities on four facets (feasibility, profitability, risk-taking and professionalism) using a Likert scale of low (1) to high (5). This was repeated several times until consensus was achieved. In stage three, 65 Economics and Management graduate students in their final year were asked to assess the opportunities on a Likert scale of no opportunity (1) to very good opportunity (5). The respondents were only allowed 15 minutes to complete the task and asked to give the first answer that came to mind. This was used as a measure of their alertness. Finally, stage four was completed one month after the completion of stage three. The same participants from stage three, using the same brochure, were invited to complete two surveys. In the first survey, they were to assess each opportunity on four facets (feasibility, profitability, risk-taking and professionalism) using a Likert scale of low (1) to high (5). The second questionnaire included four short questionnaires on the personality traits: self-efficacy, propensity, proactiveness and need for achievement.

The results indicated no significant correlation between alertness and the four opportunity factors for awareness, suggesting that awareness and alertness are two separate constructs. Additionally, no significant correlation between alertness and the four personality traits was found. This suggests that these traits – self-efficacy,

propensity, proactiveness and need for achievement – are not part of an alertness schema that entrepreneurs would use to recognize opportunities. Further, this implies that recognition of the opportunity and not personality traits determine who becomes an entrepreneur as Kirzner (1997) asserts.

As scanning and searching, connecting, and judgment. Important to the field of entrepreneurship is the trend for successfully measuring entrepreneurial alertness by the observable actions of the entrepreneur. Tang, Kacmar, and Businetz (2010) conducted one such study. Their study is also important to the field of entrepreneurship since it offers a scale with sound psychometric properties to adequately measure entrepreneurial alertness so that other researchers can empirically examine alertness in relation to other concepts. Tang et al. (2010) proposed three dimensions of alertness and a subscale for each: (a) scanning and searching for new information; (b) associating and connecting previously disparate information; and (c) deciding if the new information represents an opportunity. Following Kirzner's (1979) work, the first dimension— – scanning and searching—involves regularly scanning the landscape and consistently looking for new information. The second dimension – association and connection—extends Kirzner's definition of alertness to include an inculcation of disparate pieces of information to produce alternatives. This is similar to interpretive ability defined by Gaglio and Katz (2001) noted previously in this chapter. This dimension involves determining how an individual processes and acts in response to new information. The final dimension— evaluation and judgment—involves understanding the evaluation and judgment used to determine if new situations, circumstances, cues or information present an exploitable opportunity. Judgment as an aspect of Kirzner's (1979) entrepreneurial alertness,

involves continually evaluating new market conditions and information to decide if they are useful. Here, social cognition theory is employed which entails understanding how the individual uses prior knowledge to synthesize new knowledge and respond to new cues. A consideration of why some individuals and not others are able to sift, accumulate and use important information is also considered when alertness is viewed through the social cognition theory lens (Tang et al., 2010). Importantly, the inclusion of the third dimension necessarily connects opportunity exploration (decision) to opportunity exploitation (action).

Tang et al. (2010) presented six items to measure the scanning and search dimension which is consistent with Kirzner's original definition of alertness and similar to Kaish and Gilad's (1991) alertness scale. The scale allows the entrepreneur to assess himself or herself in areas pertaining to how they dissect and scrutinize sources of new information. Three items were used to assess the second dimension—association and connection—how well an entrepreneur associates and connects varying, incongruent, complex and possibly even abstract pieces of information. Finally, four items examined the third dimension—evaluation and judgment—how the entrepreneur enters into the judgment phase of alertness to determine if the information presents an exploitable opportunity.

Tang et al. (2010) conducted three different studies in order to build and validate their alertness scale based in cognition theory. The first study surveyed students and began with 24 items that were reduced to 15 items using content adequacy analysis. The second studied CEOs and performed EFA and CFA analyses on two halves of the samples. Thirteen items resulted from this study. The final study produced a convergent,

discriminate and valid scale. Here, Tang et al. (2010) hypothesized that: (a) an entrepreneur's prior knowledge is positively related to each dimension of entrepreneurial alertness; and (b) each dimension of entrepreneurial alertness is positively associated with the firm's innovativeness.

The results revealed that prior knowledge predicted each of the three dimensions of entrepreneurial alertness, confirming Shane's (2000) belief that an entrepreneur's prior knowledge produces the likelihood his or her discovery of opportunities. The results also indicated that entrepreneurial alertness has a positive effect on a firm's innovativeness. The primary purpose of the Tang et al. (2010) study was to provide a scale for entrepreneurial alertness that has statistically powerful psychometric properties since studies thus far had not done so. The authors succeeded in their purpose of developing a scale for entrepreneurial alertness. This scale will be used in this present study with permission by the authors.

Comparing Unlearning to Entrepreneurial Alertness

The literature review has highlighted the symbiotic nature of the relationship between individual unlearning and entrepreneurial alertness in several ways. Researchers of entrepreneurial learning theory have established that entrepreneurs learn differently than non-entrepreneurs. Entrepreneurs tend to learn through gradual, complex, discrete and discontinuous learning events as suggested by Cope (2003). Since an entrepreneur's existing knowledge may restrict his prospective behaviors, unlearning is a necessary component of the entrepreneurial learning process (Minniti & Bygrave, 2001). Similarly, researchers of entrepreneurial alertness theory postulate that alert individuals develop and

maintain a complex schema (they learn differently) which allows or causes them to be more alert than others.

Both individual unlearning and entrepreneurial alertness are cognitive processes requiring schema development and change. The ability to manage multiple perceptions and interpretations are important to both the ability to unlearn and the ability to be entrepreneurially alert. While entrepreneurial alertness is driven by the existence of multiple perceptions and interpretations, unlearning influences the development of multiple perceptions and interpretations.

A fundamental component of both individual unlearning and entrepreneurial alertness is the questioning of current thinking and new information to understand if and how they can be integrated. The process of challenging existing assumptions and perceptions underpins both constructs. People who do not unlearn do not question their current thinking or new information (follow the double-loop) (Argyris & Schön, 1978). Similarly, non-alert people tend to accept information as is or acknowledge only their early frame of reference (Gaglio & Katz, 2001). The cognitive process of questioning makes both of these constructs higher order learning processes.

Both individual unlearning and entrepreneurial alertness have been shown to impact firm competitive advantage, though in different ways. Individual unlearning impacts competitive advantage by affecting organizational change, intellectual capital, firm performance (as a mediator of knowledge exploration/exploitation), and absorptive capacity (which enables innovation). Entrepreneurial alertness impacts competitive advantage by affecting intellectual capital, opportunity recognition, and opportunity

innovation. Both unlearning and entrepreneurial alertness can play a vital role in the success of entrepreneurs.

Researchers suggest that embedded in both unlearning and entrepreneurial alertness are decision and action. Both constructs necessarily connect to exploration (decision) and exploitation (action); unlearning, as it relates to learning, entrepreneurial alertness, as it relates to opportunities. Unlearning connects exploration to exploitation in order to produce knowledge absorption and bring meaning to what is learned. Entrepreneurial alertness connects exploration to exploitation in order develop recognized opportunities and convert them into purchasable products or services in the marketplace.

Both individual unlearning and entrepreneurial alertness have a process nature depicted in Figure 2.2. The unfreeze phase of unlearning opens the individual to question his or her thinking, while the scanning and searching phase of entrepreneurial alertness opens the individual to see possibilities. The move phase of unlearning allows the rejection of old thinking in order to see new interpretations and prepare the way for new information, while the association and connection phase of entrepreneurial alertness allows the individual to begin to see causal links and different frames of reference and interpretations. The refreeze phase of unlearning fully and permanently transitions the individual into changing behaviors and putting new practices into place, while the evaluation and judgment phase of entrepreneurial alertness causes the individual to assess the validity of the opportunity and begin to understand how to exploit it.

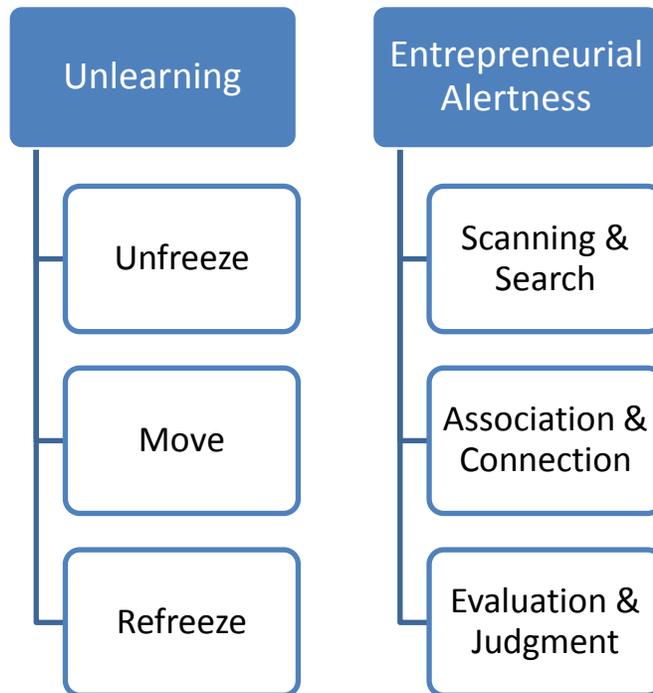


Figure 2.2. The Process Nature of Unlearning and Entrepreneurial Alertness.

Chapter Summary

This review of the body of literature concerning unlearning theory and entrepreneurial alertness theory has set the stage for an empirical exploration of the relationship between the two constructs. Individual unlearning has been shown to have a positive correlation with knowledge organizational change, intellectual capital, the ability to absorb knowledge, and organizational performance. Most importantly, a psychometrically sound scale for measuring unlearning has been developed and tested. It will be used for this present study with permission by the authors. Likewise, entrepreneurial alertness has been shown to merit further investigation as it pertains to an entrepreneur's ability to recognize opportunities. The similarities between individual unlearning and entrepreneurial alertness have been outlined and a statistically sound scale for measuring entrepreneurial alertness has been developed and tested. It will also be

used for this present study with permission by the authors. Chapter 3 will present the hypotheses and detail the methodology and approach of this present study including the research context, research participants and data collection procedures. Chapter 4 will report the findings of the study and data analysis procedures, while Chapter 5 will offer corresponding meanings drawn from the findings, limitations of the study and recommendations.

Chapter 3: Research Design Methodology

Introduction

This study was an exploration of the relationship between length of prior corporate employment and unlearning, length of prior corporate employment entrepreneurial alertness and unlearning and entrepreneurial alertness. The study proposed that the longer one works in a corporate setting prior to launching an entrepreneurial venture, the less one's propensity to unlearn and the less one's inclination to be entrepreneurially alert. Further, the higher an individual's propensity to unlearn, the higher his or her ability to be entrepreneurially alert. Unlearning is a set of actions taken by learners to dispose of knowledge (Hedberg, 1981). Entrepreneurial alertness is "the ability to notice without search opportunities that have been hitherto overlooked" (Kirzner, 1979, p.148). Gaglio & Katz (2001) propose that entrepreneurially alert individuals have an alertness schema that directs their attention to new, abnormal or opposing situation. Schemas are deeply embedded beliefs, abstractions, or images that frame how we perceive the world and the actions we take because of those perceptions (Senge, 1990). The study did not seek to produce evidence of causality of the variables, but rather explored the correlations between them. This chapter describes the hypotheses and quantitative research method used by this study including the research context, the participants, and the instruments used in data collection.

Research Questions and Hypotheses

The research questions for this study were as follows: Is there a significant correlation between unlearning and alertness for entrepreneurs? Is there a significant correlation between length of prior employment and unlearning? Finally, is there a significant correlation between length of prior employment and entrepreneurial alertness? To date, no studies have investigated these relationships. Three hypotheses were generated from the research questions. The first and primary hypothesis is that:

H1: There is a significant positive correlation between individual unlearning and entrepreneurial alertness.

It was also proposed that there is a relationship between length of prior employment and unlearning, and length of prior employment and entrepreneurial alertness. Becker (2008) avers that an individual's level of experience and knowledge could potentially impact whether or not he or she unlearns. Becker (2008) further suggests that individuals with extensive knowledge and experience (breadth of experience) are more likely to engage in unlearning, however, individuals with extensive years of experience (which usually means older individuals) typically resist unlearning. This led to the following hypotheses:

H2: There is a significant negative correlation between length of prior employment and individual unlearning. The higher the length of prior employment, the lower the level of individual unlearning.

H3: There is a significant negative correlation relationship between length of prior employment and entrepreneurial alertness. The

higher the length of prior employment, the lower the level of entrepreneurial alertness.

The methods used to test these hypotheses are described in the next several subsections.

Research Context and Participants

The researcher contacted 98 Chambers of Commerce, business incubators, and entrepreneurial firm support organizations, programs and associations throughout New York State by email (see Appendix A) requesting that they provide a distribution list of entrepreneurs. Additionally, the researcher accessed the websites of 11 business incubators to obtain the email addresses of their resident entrepreneurs. Ultimately, the names and email addresses of 611 persons identified as entrepreneurs were obtained. An online survey was sent by email (see Appendix B) to these 611 entrepreneurs. The survey was a cross-sectional survey with data collected during one point in time. The survey was open for 60 days. The potential subjects were given a deadline for completing the survey. Before the deadline was reached, several follow-ups emails were sent to encourage the potential subjects to complete the survey.

The subjects for this study were required to be entrepreneur owners, founders, partners and principals who work at least 50% of their time in the business and who were involved in the startup of the business. Sampling was multistage or clustering from groups that have been identified as outlined above.

Instruments Used in Data Collection

Unlearning. Five different measures for individual unlearning were presented previously in Chapter 2. Researchers of each study showed statistical evidence that the scale they used was valid and reliable. Conceptually, however, the unlearning scale used

by Cepeda-Carrion et al. (2010) is the most suitable measure for the candidate's research. This scale, informed by Kurt Lewin's change model, consists of three dimensions (Cepeda-Carrion et al., 2010): (a) *The examination of lens fitting* – disrupting of the individual's comfortable state of being; (b) *The framework for changing individual habits* – challenging obsolete thinking, understanding new ideas and creating motivation to change; and (c) *The consolidation of emergent understandings* – accepting new mental models. These three dimensions are congruent with what Cegarra-Navarro & Dewhurst (2003a) have outlined as phases of the unlearning process: (a) Problem identification; (b) Acceptance of change; and (c) New practices. The scale was adapted for tense. Using this model, the unlearning construct has three subscales. A five-item subscale measured the first dimension – *examination of lens fitting* (problem identification). These items identify the support of policies, rules, reporting, structures and decision-making practices used to promote problem identification, making mistakes and new ways of doing things. A seven-item subscale measured the second dimension – *the framework for changing individual habits* (acceptance of change). These items focus on an individual's awareness of their own mistakes and ways of thinking, and consciousness of erroneous behaviors that direct day-to-day attitudes. Finally, a six-item subscale measured the third dimension – *the consolidation of emergent understandings* (new practices). These items depict how an individual receives change, introduces change throughout the organization, works with others in the organization, and values taking risks and receiving new information. Table 3.1 details the Unlearning scale used in this study with permission.

Table 3.1

Unlearning Scale

The examination of lens fitting with respect to your current entrepreneurial position:

1. I am able to identify problems (new ways of doing things) easily
2. I am able to see mistakes by my colleagues
3. I am are able to listen to my customers (e.g. complaints, suggestions)
4. I am able to share work related information with my colleagues easily
5. I try to reflect and learn from my own mistakes

The framework for changing individual habits with respect to your personal skills:

6. New situations have helped me identify my own mistakes
7. New situations have helped me recognize undesirable attitudes
8. New situations have helped me identify improper behaviors
9. I recognize when forms of reasoning or solutions are inadequate
10. New situations have helped me change my behaviors
11. New situations have helped me change my attitudes
12. New situations have helped me change my thoughts

The consolidation of emergent understandings with respect to your current entrepreneurial organization:

13. I am to be open to new ideas and new ways of doing things
14. I have tried to initiate projects and introduce innovations
15. I recognize the value of new information, assimilate it and apply it
16. I adopt the suggestions of staff and colleagues in the form of new routines and processes
17. I am prone to collaborate with members of the organization and to solve problems together
18. I am concerned with the fact that the manner of answering before unforeseen circumstances will be known by all

Note. All on a 7-point Likert scale -1 (high disagreement) to 7 (high agreement)

Adapted from Cepeda-Carrion et al. (2010, pp. 16-17).

Entrepreneurial alertness. The first empirical study of Kirzner's (1973) entrepreneurial alertness was performed by Kaish & Gilad (1991). Few additional tests have been conducted since that time (Busenitz, 1996; Gaglio & Katz, 2001; Hsieh, Kelley & Liu, 2009; Tang, Tang & Lohrke, 2008; Aviram, 2010; Tang, Kacmar & Businetz,

2010). The scale presented by Tang, Kacmar and Businetz (2010) is most relevant to the present study and will be used with permission. Here, entrepreneurial alertness is measured on three dimensions: (a) *scanning & search*; (b) *association & connection*; and (c) *evaluation & judgment*. A six-item subscale measured the first dimension – *scanning & search*. This dimension of entrepreneurial alertness represents the collective current knowledge and prior experiences, and their associated meaning for the individual. A three-item subscale measured the second dimension – *association & connection*. This dimension focuses on how the individual extends existing information, and associates and connects new information. A four-item subscale measured the third dimension – *evaluation & judgment*. This dimension relates to how the individual evaluates information, and makes judgments and decisions about opportunities. Table 3.2 details the items of the entrepreneurial alertness scale to be used with permission in this present study.

Table 3.2

Entrepreneurial Alertness Scale

Scanning & Search

1. I have frequent interactions with others to acquire new information.
 2. I always keep an eye out for new business ideas when looking for information.
 3. I read newspapers, magazines, or trade publications regularly to acquire new information.
 4. I browse the Internet every day.
 5. I am an avid information seeker.
 6. I am always actively looking for new information.
-

Association & Connection

7. I see links between seemingly unrelated pieces of information.
 8. I am good at “connecting dots”.
 9. I often see connections between previously unconnected domains of information.
-

Evaluation & Judgment

10. I have a gut feeling for potential opportunities.
 11. I can distinguish between profitable opportunities and not-so-profitable opportunities.
 12. I have a knack for telling high-value opportunities apart from low-value opportunities.
 13. When facing multiple opportunities, I am able to select the good ones.
-

Note. All on a 5-point Likert Scale - 1 (strongly disagree) to 5 (strongly agree)

Adapted from Tang et al. (2010, p.8).

Control variables. Data was collected for the following control variables:

1. Length (in # of years) of prior employment is a key component of this present study and was measured as a continuous variable where the

respondent entered a number that represents his or her number of years of employment prior to starting their entrepreneurial venture

2. Gender of respondent:

- 0 – Female
- 1 - Male

3. Age range of respondent:

- 1 - less than 25 years old
- 2 - 25-34 years old
- 3 - 35-44 years old
- 4 - 45-54 years old
- 5 - 55-64 years old
- 6 – 65+ years old

Screening variable. One screening variable will be used to identify true entrepreneurs for the study. Researchers have identified entrepreneurs in numerous and disparate ways over the years. Since narrowing and specifying the definition of an entrepreneur in research has been problematic (Gartner, 1988), it is important to be specific about the identification of entrepreneurs for this present study. For this present study and to define a population of interest that is generalizable beyond this study, the entrepreneur must be the founder, owner, partner or principal of the business and must spend at least 50% of their time involved in the operation of the business (Gartner, 1988; Katz & Brockhaus Sr., 1993). They must also have been involved in the start up of the business (Gartner, 1988; Katz & Brockhaus Sr., 1993). Respondents not meeting these

criteria were dropped from the responses. Questions were posed to determine if the respondent met these important criteria, namely:

1. What is your position in the business?
 - Founder/Owner
 - Co-Founder/Partner
 - Principal
 - Other: _____
2. What percent of your time do you work in the operation of the firm?
3. Were you involved in the startup or purchase of the business?
 - Yes
 - No

Moderator variables. The following four moderator variables tracking demographic information about the respondent were included,:

1. Race/Ethnicity of respondent:
 - 1-Black/African American
 - 2-Asian/Pacific Islander
 - 3-Hispanic/Latino
 - 4-Mixed Race
 - 5-Native American
 - 6-White
 - 7-Other: _____
2. Highest level of education completed:
 - 1 - Less than High School diploma

- 2 - High School diploma
 - 3 - Some College
 - 4 - Associates degree
 - 5 - Bachelors degree
 - 6 - Some Masters degree
 - 7 - Masters degree
 - 8 - Some Doctorate degree
 - 9 - Doctorate degree
3. Role of respondent in previous organization prior to launch of venture:
- 1-Skilled/Trades
 - 2-Professional
 - 3-Administrative
 - 4-Supervisor
 - 5-Management
 - 6-Senior Management/Executive (C-Level)
 - 7-Other: _____
4. What was your primary reason for starting this business (Katz & Brockhaus Sr., 1993, p. 214)?
- 1- Unemployed due to layoff
 - 2- Did not like present work situation
 - 3- Opportunity to develop my own idea
 - 4- Opportunity presented by someone else
 - 5- Want to be my own boss and make money

- 6-Other: _____

Background variables. Three background variables describing the entrepreneurial firm were also collected, namely:

1. Industry sector of the current venture (Katz & Brockhaus Sr., 1993):

- 1 - Agricultural
- 2 - Business Services
- 3 - Construction
- 4 - Education/Training
- 5 - Finance, Insurance or Real Estate
- 6 - Health Services
- 7 - High Technology
- 8 - Legal Services
- 9 - Manufacturing
- 10 - Retail
- 11 - Sustainability/Green Technology
- 12 - Transportation, Communication, Utilities
- 13 - Wholesalers
- 14 - Other: _____

2. Number of years the company has been in business:

- 1 - <1 year
- 2 - 1-2 years
- 3 - 3-4 years
- 4 - 5-7 years

- 5 - 8-10 years
 - 6 - 10+ years
3. Number of people currently employed by the venture:
- 1 – 1 employee
 - 2 - 2-10 employees
 - 3 - 11-49 employees
 - 4 - 50-149 employees
 - 5 - 150-499 employees
 - 6 - 500+ employees

Summary

Existing scales for unlearning and entrepreneurial alertness were used for this study with permission. Respondent entrepreneurs were required to be founders, owners, principals and partners, work in their organization at least 50% of the time and involved in the startup of the firm. The data was collected using an online survey tool. Chapter 4 will report the findings of the study. Chapter 5 will present meanings drawn from the findings, limitations of the study and recommendations.

Chapter 4: Results

Introduction

This study investigated the correlations between three variables: length of prior corporate employment, unlearning, and entrepreneurial alertness. The purpose of the study was to test the following hypotheses:

H1: There is a significant positive correlation between individual unlearning and entrepreneurial alertness.

H2: There is a significant negative correlation between length of prior employment and individual unlearning.

H3: There is a significant negative correlation relationship between length of prior employment and entrepreneurial alertness.

H1 was supported; H2 and H3 were not supported. This chapter will detail the specific results of the data collected from survey.

Data Analysis and Findings

Participants. As Table 4.1 indicates, though 126 entrepreneurs opened and started the survey, only 97 actually completed the survey. The survey posed several screening questions to ensure generalizability beyond this study, namely: (a) What is your position in the business?; (b) What percent of your time do you work in the operation of the firm?; and (c) Were you involved in the startup or purchase of the business? Respondents were required to be: Founders, Owners, Co-Founders, Partners, or Principals of the firm. Two respondents indicated that they served in the role of

President/CEO and one indicated he or she was a Director in the entrepreneurial firm. These three respondents, though their titles were not in the original list of valid titles, were considered valid for this study. Two of the respondents indicated that they were consultants and were eliminated from the results, leaving 95 respondents.

Respondents were required to be currently working in their firm for at least 50% of their time. Fifteen of the remaining 95 respondents indicated that they worked in the current entrepreneurial venture for less than the required 50% of their time. These respondents were eliminated from the survey, leaving 80 respondents. The remaining 80 respondents were all, as required, involved in the startup or purchase of the entrepreneurial firm. As Table 4.1 indicates, the response rate after adjustments based on invalid responses was 16%.

Table 4.1

Response Validation and Rate

Response Rate Calculation	
Total Surveyed	611
Started Survey	126
Minus Incomplete Surveys	29
Completed Survey	97
Minus # not appropriate title	2
Minus less than 50% of time in Business	15
Total Valid Responses	80
Adjustments Based on Invalid Responses	
Total Eliminated from Completed Surveys	17
Percent of Total Completed	18%
Portion of Total Surveyed	107
Adjusted Total Surveyed (611-107)	504
Adjusted Response Rate (80/504)	16%

Demographics. Fifty-six percent of the validated respondents were male, 38% were female and 6% did not indicate gender. The majority of the validated respondents were 45 years of age or older (30% were 45 – 54 years old; 30% were 55 – 64 years old; 18% were 65 years old or older). The majority of the validated respondents were White (70%) while 15% were African American. All of the validated respondents had at least some college education with 45% holding a Master’s degree. Eighty-four percent of the validated respondents held a Professional position (35%), a Management position (23%)

or a Senior Management/Executive (C-Level) position (26%) in their previous organization prior to starting entrepreneurial firm. Twenty-eight percent of the validated respondents indicated they started the business because they did not like present work situation, while 35% indicated that an opportunity was presented to them by someone else. The full demographic details of the validated respondents can be found in Appendix C.

Twenty-six percent of the entrepreneurial firms provided Business Services, while 18% were High Technology firms. Eighty-four percent of the firms have been in business for three or more years. Twenty-eight percent of the firms are single-employee firms, while 64% employ less than 50 people. The full demographic details of the entrepreneurial firms are detailed in Appendix D.

H1: Unlearning and entrepreneurial alertness. A two-tailed bivariate association test using a Pearson coefficient was executed to examine the existence of a correlation between unlearning and entrepreneurial alertness. There is a significant positive relationship between unlearning and entrepreneurial alertness ($r=0.349$, $p= 0.01$) (see Table 4.2). The scatter diagram in Figure 4.1 further illustrates the degree of correlation between unlearning (x-axis) and entrepreneurial alertness (y-axis).

Table 4.2

Unlearning and Entrepreneurial Alertness Correlations

		Unlearning	Entrepreneurial Alertness
Unlearning	Pearson Correlation	1	.349**
	Sig. (2-tailed)		.002
	N	80	75
Entrepreneurial Alertness	Pearson Correlation	.349**	1
	Sig. (2-tailed)	.002	
	N	75	75

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

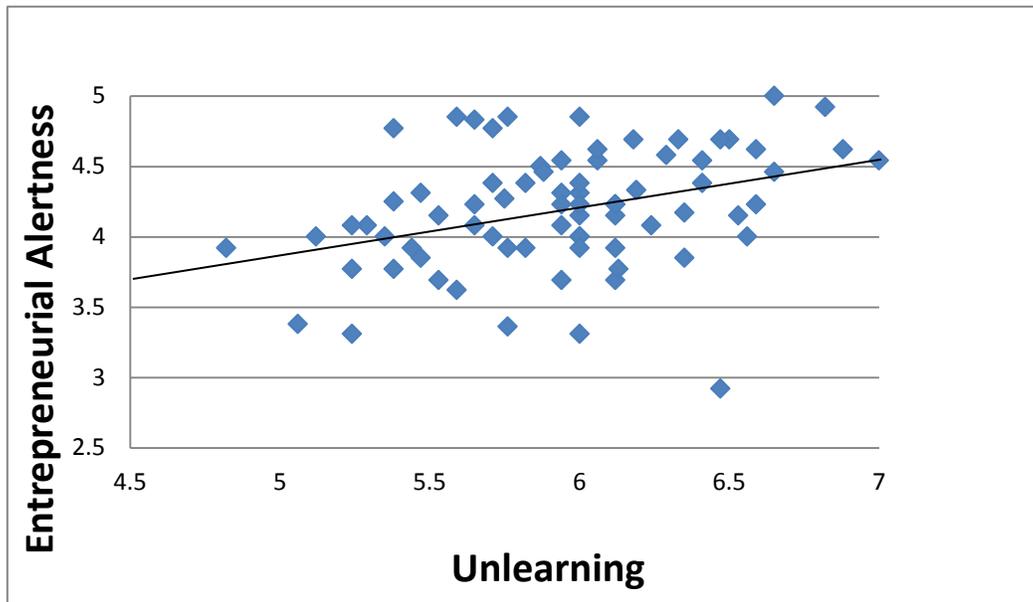


Figure 4.1. Scatter Diagram of Correlation between Unlearning and Entrepreneurial Alertness.

Descriptive statistics were run for unlearning and entrepreneurial alertness. The data indicated that the mean and median of unlearning were close at 5.948 and 6.0 respectively, as shown in Figure 4.2. Similarly, the mean and median of entrepreneurial

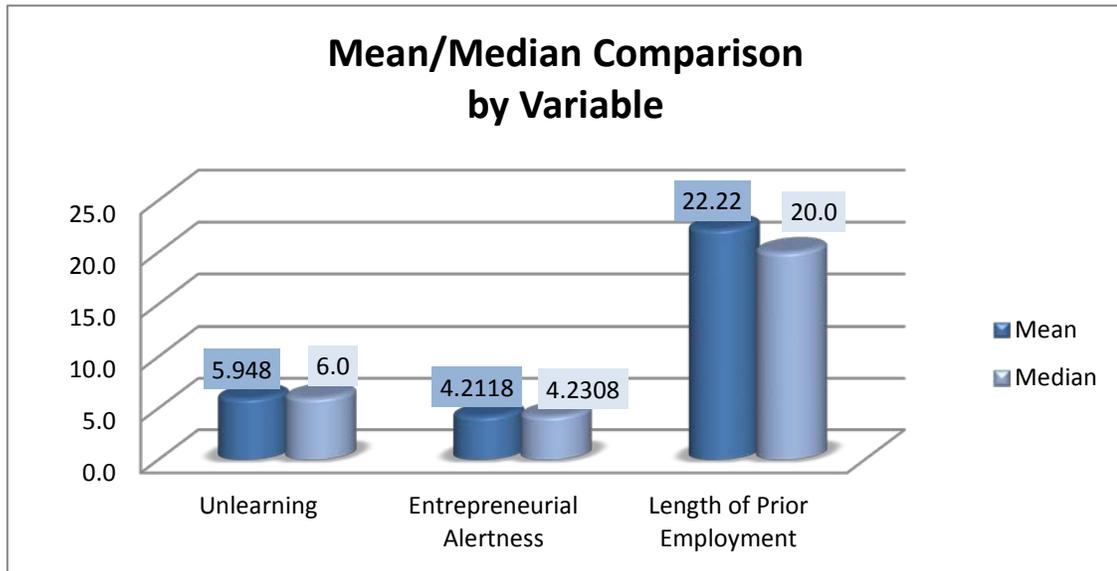


Figure 4.1. Mean/Median Comparison by Variable.

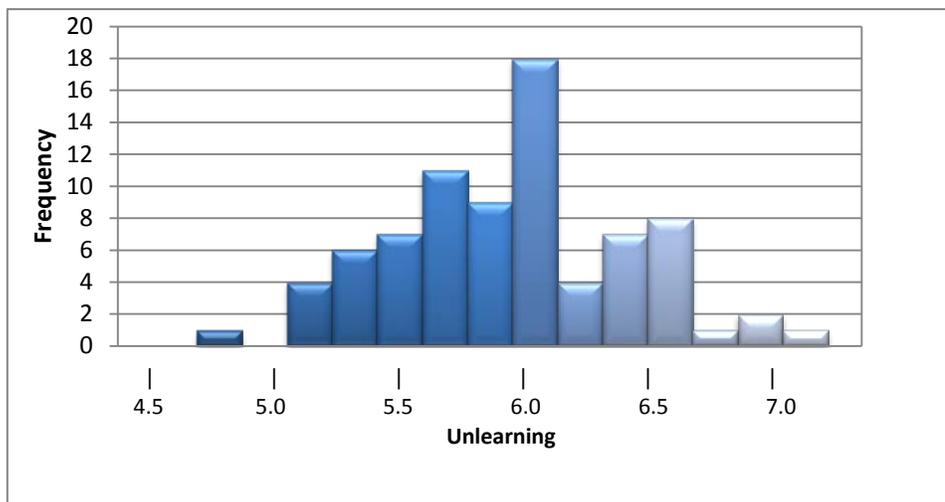


Figure 4.2. Histogram of Unlearning.

alertness were close at 4.2118 and 4.2308 as shown in Figure 4.1. This indicates that the data are normal; that there are few outliers in the data. It also validates the existence of a linear relationship between the two variables. The histogram of unlearning shown in Figure 4.2 further signifies a normal distribution of unlearning data. The histogram of entrepreneurial alertness shown in Figure 4.3 further indicates a normal distribution of entrepreneurial alertness data.

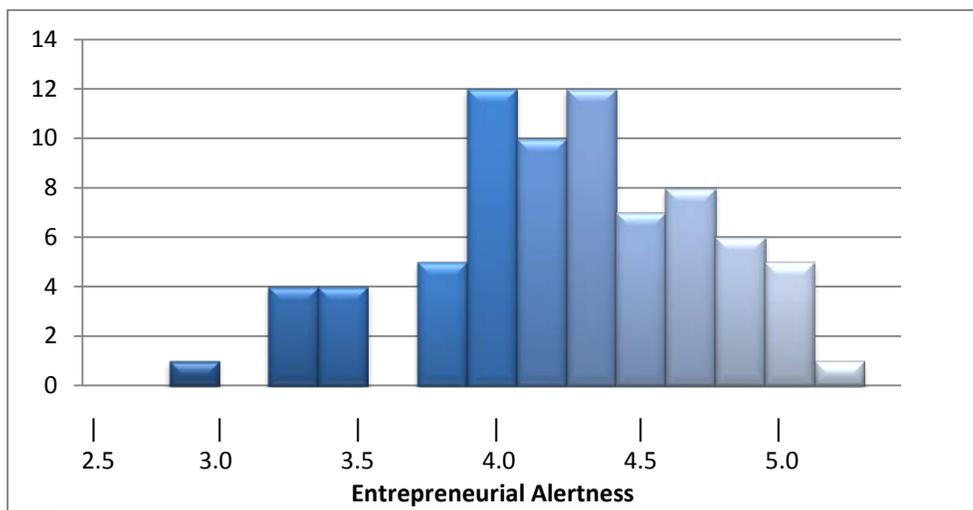


Figure 4.3. Histogram of Entrepreneurial Alertness.

To extend evidence of the correlation between unlearning and entrepreneurial alertness, bivariate association tests using a Pearson coefficient were executed to examine the existence of a correlation between the three dimensions of each variable. The results, as detailed in Table 4.3, indicated that there are significant positive correlations between:

1. Unlearning and *Association & Connection* (dimension 2 of Entrepreneurial Alertness) – ($r=0.316$, $p= 0.01$)

Table 4.3

Correlations between Three Dimensions of both Unlearning and Entrepreneurial Alertness

		Unlearning Dimension 1 Lens Fitting	Unlearning Dimension 2 Changing Habits	Unlearning Dimension 3 Emerg Underst.	EA Dimension 1 Scan & Srch	EA Dimension 2 Assn & Conn	EA Dimension 3 Eval & Judg	Unlearning	Entrepreneurial Alertness
Unlearning Dimension 1 Lens Fitting	Pearson Correlation	1	.484**	.475**	.208	.078	.366**	.706**	.305**
	Sig. (2-tailed)		.000	.000	.074	.504	.001	.000	.008
	N	80	80	79	75	75	75	80	75
Unlearning Dimension 2 Changing Habits	Pearson Correlation	.484**	1	.492**	.199	.364**	.263*	.909**	.361**
	Sig. (2-tailed)	.000		.000	.087	.001	.023	.000	.001
	N	80	80	79	75	75	75	80	75
Unlearning Dimension 3 Emergent Underst.	Pearson Correlation	.475**	.492**	1	.154	.267*	.097	.740**	.228*
	Sig. (2-tailed)	.000	.000		.186	.021	.408	.000	.049
	N	79	79	79	75	75	75	79	75
EA Dimension 1 Scan & Search	Pearson Correlation	.208	.199	.154	1	.218	.319**	.208	.804**
	Sig. (2-tailed)	.074	.087	.186		.060	.005	.073	.000
	N	75	75	75	75	75	75	75	75
EA Dimension 2 Associating & Connecting	Pearson Correlation	.078	.364**	.267*	.218	1	.210	.316**	.589**
	Sig. (2-tailed)	.504	.001	.021	.060		.070	.006	.000
	N	75	75	75	75	75	75	75	75
EA Dimension 3 Eval. & Judg.	Pearson Correlation	.366**	.263*	.097	.319**	.210	1	.267*	.706**
	Sig. (2-tailed)	.001	.023	.408	.005	.070		.021	.000
	N	75	75	75	75	75	75	75	75
Unlearning	Pearson Correlation	.706**	.909**	.740**	.208	.316**	.267*	1	.349**
	Sig. (2-tailed)	.000	.000	.000	.073	.006	.021		.002
	N	80	80	79	75	75	75	80	75
Entrepreneurial Alertness	Pearson Correlation	.305**	.361**	.228*	.804**	.589**	.706**	.349**	1
	Sig. (2-tailed)	.008	.001	.049	.000	.000	.000	.002	
	N	75	75	75	75	75	75	75	75

Note. **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

2. Unlearning and *Evaluation & Judgment* (dimension 3 of Entrepreneurial Alertness) – ($r=0.267$, $p= 0.05$)
3. *Examination of Lens Fitting* (dimension 1 of Unlearning) and *Evaluation & Judgment* (dimension 3 of Entrepreneurial Alertness) – ($r=0.366$, $p= 0.01$)
4. *Framework for Changing Individual Habits* (dimension 2 of Unlearning) and *Association & Connection* (dimension 2 of Entrepreneurial Alertness) – ($r=0.364$, $p= 0.01$)
5. *Framework for Changing Individual Habits* (dimension 2 of Unlearning) and *Evaluation & Judgment* (dimension 3 of Entrepreneurial Alertness) – ($r=0.263$, $p= 0.05$)
6. *Framework for Consolidating Emergent Understandings* (dimension 3 of Unlearning) and *Association & Connection* (dimension 2 of Entrepreneurial Alertness) – ($r=0.267$, $p= 0.05$)
7. Entrepreneurial Alertness and *Examination of Lens Fitting* (dimension 1 of Unlearning) – ($r=0.305$, $p= 0.01$)
8. Entrepreneurial Alertness and *Framework for Changing Individual Habits* (dimension 2 of Unlearning) – ($r=0.361$, $p= 0.01$)
9. Entrepreneurial Alertness and *Framework for Consolidating Emergent Understandings* (dimension 3 of Unlearning) – ($r=0.228$, $p= 0.05$)

H2: Length of prior employment and unlearning. A two-tailed bivariate association test using a Pearson coefficient was executed to test the existence of a correlation between length of prior employment and unlearning. The results indicated

that H2 – the existence of a significant negative correlation between length of prior employment and individual unlearning – is not supported ($r=0.043$) as Table 4.4 shows. Descriptive statistics were run for the length of prior employment variable. The mean and median of length of prior employment were relatively close at 22.22 and 20.0 respectively as shown in Figure 4.1, indicating normal data. The histogram of length of prior employment shown in Figure 4.4 further indicates a normal distribution of entrepreneurial alertness data.

Table 4.4

Length of Prior Employment versus Unlearning Correlations

		Unlearning	Prior Length of Employment
Unlearning	Pearson Correlation	1	.043
	Sig. (2-tailed)		.727
	N	80	70
Prior Length of Employment	Pearson Correlation	.043	1
	Sig. (2-tailed)	.727	
	N	70	70

H3: Length of prior employment and entrepreneurial alertness. A two-tailed bivariate association test using a Pearson coefficient was executed to test the existence of a correlation between length of prior employment and entrepreneurial alertness. The data indicated that H3 – the existence of a significant negative correlation between length of

prior employment and entrepreneurial alertness – is not supported ($r=-0.207$) as Table 4.5 shows.

Table 4.5

Length of Prior Employment versus Entrepreneurial Alertness Correlations

		Entrepreneurial Alertness	Length of Prior Employment
Entrepreneurial Alertness	Pearson Correlation	1	-.207
	Sig. (2-tailed)		.088
	N	75	69
Length of Prior Employment	Pearson Correlation	-.207	1
	Sig. (2-tailed)	.088	
	N	69	70

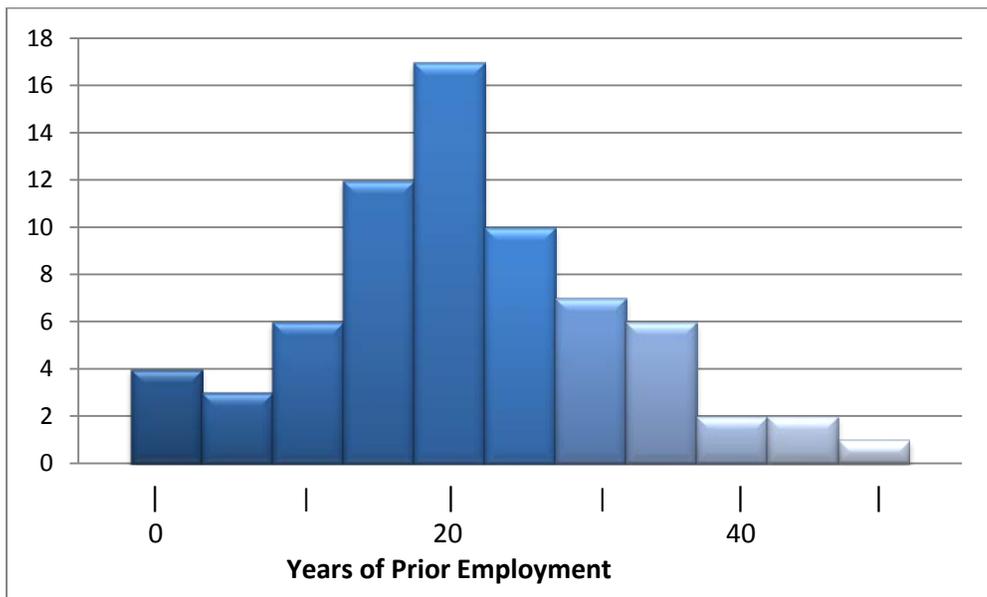


Figure 4.4. Histogram of Length of Prior Employment Variable.

Summary of Results

The findings point to a significant positive correlation between unlearning and entrepreneurial alertness. This correlation is strengthened by the existence of significant positive correlations between: (a) several of the dimensions of unlearning and several dimensions of entrepreneurial alertness along with correlations; (b) unlearning, itself, and two of the dimensions of entrepreneurial alertness; and finally (c) entrepreneurial alertness, itself, and all three of the dimensions of unlearning. Chapter 5 will offer the meanings drawn from the findings, limitations of the study, and final recommendations based on the results.

Chapter 5: Discussion

Introduction

This study examined relationships among three factors: length of prior employment, unlearning, and entrepreneurial alertness. To provide context, unlearning has been defined as a set of actions taken by learners to dispose of knowledge (Hedberg, 1981). Entrepreneurial alertness is “the ability to notice without search opportunities that have been hitherto overlooked” (Kirzner, 1979, p.148). Gaglio & Katz (2001) propose that entrepreneurially alert individuals have an alertness schema that directs their attention to new, abnormal, or opposing situations. Schemas are deeply embedded beliefs, abstractions, or images that frame how we perceive the world and the actions we take because of those perceptions (Senge, 1990). These schemas actively change based on information we receive (Gaglio & Katz, 2001). They direct how we experience, sense, understand, evaluate, and behave in a particular situation and determine our priorities, relevance, awareness, and focus of attention (Mezirow, 1991). These schemas affect what we see, our perspectives, and our interpretations of what we see. Gaglio and Katz (2001) suggest that alert individuals may be inclined to look for the unusual or different, or question the obvious. These individuals tend to be more apt to challenge their own assumptions and thinking. This is the underpinning of unlearning. Moreover, these individuals recognize changes in market disequilibria, act in response when information does not align with their current schema, and even adjust their working schema by questioning their own assumptions and thinking. Thus, the development and

subsistence of an alertness schema provides the backdrop for the existence of entrepreneurial alertness. The process of unlearning is intertwined throughout the process of entrepreneurial alertness.

The study provides important contributions and advances the fields of entrepreneurship and entrepreneurial learning with the use of psychometrically sound instruments for both unlearning and entrepreneurial alertness. Gartner (1988) challenged researchers studying entrepreneurship to restrict their respondents to true entrepreneurs. Therefore, screening variables were used to narrow and specify the definition of an entrepreneur in order to ensure a more generalizable sample.

The research questions for this study were: Is there a significant correlation between unlearning and alertness for entrepreneurs? Is there a significant correlation between length of prior employment and unlearning? Finally, is there a significant correlation between length of prior employment and entrepreneurial alertness? To date, no studies have investigated these relationships. Three hypotheses were generated from the research questions:

H1 – There is a significant positive correlation between individual unlearning and entrepreneurial alertness.

H2 – There is a significant negative correlation between length of prior employment and individual unlearning.

H3 – There is a significant negative correlation relationship between length of prior employment and entrepreneurial alertness.

The first hypothesis was supported; the second and third were not. Several meanings can be drawn from these results. This chapter offers those suggestions along

with limitations of the study. Recommendations are offered for business practice, the education of entrepreneurs, and future research.

Meanings Drawn from Findings

H1: Unlearning and entrepreneurial alertness. A positive correlation was found between unlearning and entrepreneurial alertness. That means that an individual who has the propensity to engage in the unlearning process also has tendencies towards entrepreneurial alertness. The two concepts, unlearning and entrepreneurial alertness, are multifaceted and complex. Unpacking both constructs by separating each into their three dimensions enhances the understanding of the relationship between the two concepts.

Informed by Kurt Lewin's seminal work, unlearning is comprised of three dimensions: (a) unfreeze—*the examination of lens fitting*—involves an interruption of the individual's current comfortable state of being, allowing access to, entry of, and awakening to new beliefs and perceptions; (b) move—*the framework for changing individual habits*—is a transition state which entails the challenging process of restraining from inappropriate habits and behaviors while recognizing new concepts; here, the individual is motivated to change; and (c) refreeze—*the framework for consolidating emergent understandings*—involves processes (usually organizational) that relieve an individual to use his or her talents to build and employ new schemas in order to solidify the adjustment to new knowledge structures (Cepeda-Carrion et al., 2010).

Entrepreneurial alertness also contains three dimensions: (a) *scanning & search* involve regularly scanning the landscape and consistently looking for new information, increasing the individual's knowledgebase or store of knowledge; (b) *association & connection* includes connecting, processing, and responding to new or previously

disparate information to produce alternatives; here, the individual extends his or her current logic in order to consider multiple alternatives and to connect to a broader view; and (c) *evaluation & judgment* includes determining if new situations, circumstances, cues, market conditions, or information are useful or present an exploitable opportunity (Tang et al., 2010).

There is a significant positive correlation between unlearning and both the *association & connection* and *evaluation & judgment* dimensions. This relates to the cyclical nature of the entrepreneurial alertness process proposed by Tang et al. (2010) and depicted in Figure 5.1. This correlation suggests that the process of unlearning subsists throughout the entrepreneurial alertness process. The authors suggest that an individual can reach the *association & connection* phase of entrepreneurial alertness, but require further clarification of the information in order to determine if the information is useful, thus the return back to *scanning & search*. Further, the authors suggest that an individual can reach the *evaluation & judgment* phase of entrepreneurial alertness, but require further information or an adjustment or reconsideration of the information he or she currently has in order to determine if a profitable opportunity exists, thus the return back to *scanning & search* to obtain more information. This double-loop back to a previous phase in the process suggests the individual has unlearned or is prepared to unlearn because they are questioning their assumptions. This interweaving of unlearning and entrepreneurial alertness further places the two constructs in the domain of higher level or deep learning and thinking. This is congruent with Gaglio and Katz's (2001) alertness schema theory advocating that entrepreneurially alert individuals have an alertness schema which allows or causes them to more freely and liberally change and accept

change. This is also consistent with Cegarra-Navarro and Moya (2005) who position unlearning as a management tool used to advance learning. This also places focus on the transformative nature of unlearning as part of the entrepreneurial process (Politis, 2005; Minniti & Bygrave, 2001).

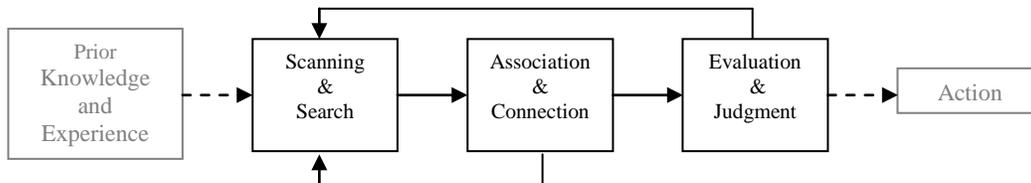


Figure 5.1. Model of Entrepreneurial Alertness. Adapted from Tang et al. (2010, p. 4).

The data revealed a significant positive correlation between entrepreneurial alertness and, individually, each of three dimensions of unlearning. These relationships involve the prior knowledge and experience of an entrepreneur, which as depicted in the entrepreneurial alertness process in Figure 4.1, are pre-conditions of the entrepreneurial alertness process (Tang et al., 2010). It has been suggested that prior knowledge increases the prospect of recognizing opportunities (Hsieh et al. 2009; Shane, 2000; Shepherd & DeTienne, 2005; Lumpkin, 2007). The notion that an entrepreneurially alert individual has and uses his or her prior knowledge and experience to successfully recognize and exploit opportunities is imperative to connecting unlearning and entrepreneurial alertness. If prior knowledge did not exist, there would be nothing and no reason to unlearn. The significant positive correlation between entrepreneurial alertness and each of three dimensions of unlearning (*the examination of lens fitting, the framework for changing individual habits, and the framework for consolidating emergent understandings*) individually, suggests that a person may have to either unfreeze, move,

and/or refreeze prior to the start of alertness process in order to adequately and efficiently enter the alertness process. Hence, in order to be entrepreneurially alert, the individual must have the capability of: (a) interrupting of his or her current comfortable state of being and allowing access to entry of and awakening to new beliefs and perceptions (*the examination of lens fitting*); (b) challenging his or her own assumptions and restraining from inappropriate habits behaviors while recognizing new concepts and motivated to change (*the framework for changing individual habits*); and (c) building and employing new schemas in order to solidify the adjustment to new knowledge structures (*the framework for consolidating emergent understandings*). In other words, the alert individual must have the ability to manage the phases of his or her own learning and unlearning process in order to sustain alertness. This is consistent with Galio and Katz's (1991) assertion that the alert individuals have an alertness schema that directs their attention to new, abnormal, or opposing situations and have the tendency to look for the unusual or different, or to question the obvious. This is consistent with the assertion by Cepeda-Carrion et al. (2010) that unlearning assumes that what we already know conjoins and "cross-contaminates" in disparate and capricious ways with what we are attempting to absorb. Further, this is consistent with Cepeda-Carrion et al. (2010) who highlight the importance of unlearning in the creation, application, and transfer of new knowledge into innovative ideas and final products and services. This is also consistent with Ardichvili and Cardoso's (2000) assertion that entrepreneurially alert individuals have the prior knowledge, but as new knowledge is obtained it must be translated appropriately into information about market conditions when inculcated with that existing knowledge in order to recognize and exploit opportunities. Effective management of the

unlearning process facilitates this translation. Consequently, the findings extend the assertion of Tang et al. (2010) that prior knowledge predicts each of the three dimensions of entrepreneurial alertness by proposing that both prior knowledge and the management of that knowledge predicts the three dimensions of entrepreneurial alertness.

There is also a significant positive correlation between *the examination of lens fitting* and *evaluation & judgment*. This suggests that the individual has current knowledge and information, but is also open and receptive to new information. This individual is cognitively agile, ready to accept and recognize new market conditions, cues and circumstances at any given time. No interruption of the individual's comfortable or habitual state of being is necessary because he or she is perpetually open to and prepared to receive information about opportunities and to use that information judiciously to exploit an opportunity. The individual constantly and automatically evaluates and judges situations and data to determine if thus far unnoticed and exploitable opportunities exist. This is congruent with Cegarra-Navarro and Sanchez-Polo's (2008) position that an individual must be open and available to lens fitting, which allows him or her to manage information in ways that evoke meaning and context. This is often made possible by proper cultivation of the organizational environment. This is consistent with Kirzner's (1979) assertion that an entrepreneurially alert individual notices opportunities without searching and effectively uses what he or she notices to evaluate and effectively exploit those opportunities.

The data also revealed that there is a significant positive correlation between *the framework for changing individual habits* and *evaluation & judgment*. This means that the individual is able to "cognitively restructure" (Schein, 1996, p. 3) his or her

assumptions and beliefs. Schein also refers to this as “cognitive redefinition,” “semantic redefinition,” or “cognitive broadening.” The individual is able to effectively use the new information that has been obtained, effectively integrate that new information with existing information, and use that information to evaluate and exploit opportunities. Schein (1996) suggests that this process is available only to the motivated learner. Note in our previous definition of *the framework for changing individual habits* dimension that it necessitates the individual being motivated to change. The motivated individual accepts new meanings, is able to broaden his or her existing meanings to concepts and ideas, or is able to resist previously anchored evaluations and judgments. He or she questions existing assumptions and thinking without reservation.

The findings also revealed that there is a significant positive correlation between *the framework for the changing individual habits* and *association & connection*. This suggests that the individual is motivated to look at disparate information in ways in which they previously had not. The individual refrains from his or her usual associations and connections of information and reframes his or her perceptions of the information in order to see new and different connections and produce new ideas and alternatives. The individual uses unconventional thinking and an unconventional lens through which to view information. This is consistent with the assertion by Hsieh et al. (2009) that entrepreneurs must synthesize, integrate, and connect unrelated, complex, and varied information to produce new frameworks in order to recognize innovative opportunities or be alert to disequilibria. This is also consistent with Schein’s (1996) assertions about “cognitive redefinition.” Significantly, Schein posits that *the framework for changing individual habits* is only possible after the individual has reached the unfrozen state in the

learning process. They are now unlocked and released to embrace unconventional thought. This, too, is congruent with Gaglio and Katz's (2001) previously noted alertness schema theory.

Finally, there is a significant positive correlation between *the framework for consolidating emergent understandings* and *association & connection*. This relationship suggests that an individual who has reached the *association & connection* phase in the process of entrepreneurial alertness must develop and solidify behaviors, habits, capabilities, and skills that allow him or her to always seek to view disparate information in new and unconventional ways; to continually and consistently think out-of-the-box. In other words, a schema change must occur. *The framework for consolidation of emergent understandings*, the refreeze phase, is a kind of seal on a behavioral change that an individual makes through the unlearning process. It is during this phase that the individual begins to build new schemas and develop habits that allow the ongoing and continual use of those schemas in the future. If new behaviors are not congruent with the individual's overall personality (schema-in-use), he or she will revert back to former ways (Schein, 1996). The refreeze phase is essential in the commitment to deep and permanent change—transformation. This is consistent with the assertion by Cegarra-Navarro et al. (2011) that because old values and attitudes often impede the acceptance of new knowledge and changing habitual behaviors, an environment must be cultivated that causes individuals to permanently diverge from traditional and customary ways of perceiving and interpreting information. Similarly, Gaglio and Katz (2001) speak of dynamic and cognitive schema change that occurs when alert individuals sense uncommon or unanticipated information. Alert individuals' motivation to be accurate

causes them to willingly change their existing schema in order to integrate new, untraditional information.

H2 and H3: Length of prior employment and unlearning/entrepreneurial alertness. H2 regarding relationship between length of prior employment and unlearning and H3 regarding relationship between length of prior employment and unlearning were not supported. The hypothesized inverse relationship between length of prior employment and the two primary constructs in the study, unlearning and entrepreneurial alertness, though intuitively appealing, does not appear to be warranted empirically. To provide context, Keisler and Sproull (1982) suggest that employees of organizations often use their organizational culture schema to assess situations and make decisions, and that this schema tends to prejudice the individual against recognizing less obvious signals. The individual could also discount the significance of signals of market change (Cowan, 1986). Becker (2008) suggests that an individual's level of experience and knowledge could potentially impact whether or not he or she unlearns. Becker (2008) further suggests that individuals with extensive knowledge and experience (breadth of experience) are more likely to engage in unlearning; however, individuals with extensive years of experience (which usually means older individuals) typically resist unlearning. The findings of this present study for H2 and H3 may cause us to consider that perhaps the individual's tie to the organizational schema is broken once they leave the organization to launch their entrepreneurial venture; therefore, they may already be seeking a new schema and new images from which to draw. It is possible that the individual who leaves a corporation and starts his or her entrepreneurial venture is already engaged in unlearning and already has some inclination to be alert to opportunities irrespective of his

or her tenure in a corporate environment and despite his or her age. It is possible that knowledge and extensive experience, as Becker has suggested, overrides any blockages to unlearning that may be related to the individual's age. The results for H2 and H3 agree with the beliefs of Shane and Venkataraman (2000) that the field of entrepreneurship necessitates further study of the underpinning for opportunities and opportunity recognition, and the individuals who recognize opportunities. As Venkataraman (1997) suggests, the primary challenge for entrepreneurship is why, when, and how certain individuals can recognize and exploit these opportunities, but others do not or cannot. It does not appear that an individual's length of prior employment is related to these abilities.

Limitations

There are several limitations of the study. Of an initial population of 504 there were only 80 usable responses (16%). The low response rate suggests that caution should be taken when generalizing the findings. In the future, a more favorable response rate might be obtained by accessing a larger, pre-validated database of entrepreneurs or entrepreneurial firms, including those in other regions or states. Offering an incentive to completing the survey or longer access to the online survey might also produce an increase in the response rate.

The data were collected at a point in time using an online survey. Since unlearning and entrepreneurial alertness are processes, a longitudinal qualitative or mixed methods study could reveal more about the participants' thinking at different points during the entrepreneurial process (i.e., at startup, development, growth, etc.). This would help in understanding the participants' level of unlearning and entrepreneurial alertness in

terms of their length of prior employment at the start of the venture, but also at varying points throughout the life of the venture.

Recommendations for Practice and Education

Business incubators, chambers of commerce, and economic development agencies are interested in improving entrepreneurs and entrepreneurial firm success in their regions. Entrepreneurship educators at colleges and universities seek to produce students who are knowledgeable and skilled in launching and developing successful entrepreneurial firms. Entrepreneurs, themselves, desire to improve their success as entrepreneurs. The results of the study can inform entrepreneurs and entrepreneurial firm success and will be useful for all of the aforementioned entities (business incubators, chambers of commerce, economic development agencies, and entrepreneurship educators at colleges and universities).

While decision and action are the basic outcomes of entrepreneurial alertness (Kirzner, 1979), change is the principle outcome of unlearning as it is for any learning process. Entrepreneurial alertness is imperative for recognizing opportunities and recognizing opportunities is necessary in creating, developing, and sustaining entrepreneurial ventures. The process of unlearning, since it is interwoven throughout the process of entrepreneurial alertness, can be used as a driving force or catalyst to increase or produce entrepreneurial alertness capabilities in individuals. Organizations and entrepreneurs can take steps to increase an individual's entrepreneurial alertness capabilities by improving the ability to unlearn certain prior knowledge, assumptions, and behaviors that may be blocking the effectiveness at being alert to opportunities in the marketplace. An environment must be cultivated that allows preparedness and agility to

change, and reduces the rigidity that may be inherent with the existence of certain cultural norms, rules, processes, and procedures. Time and occasions should be given to and taken by individuals to think and explore new and different approaches and possibilities and expand creativity. This is consistent with Venkataraman's (1997) assertion that an element of creative processing influences entrepreneurial success. Time and occasions must also be given to and taken by individuals to then exploit or put those new ideas into action. An environment and mindset free from blame and aversion to failure and risk-taking must exist and be nurtured. A trial-by-error culture and attitude must be developed. This is congruent with the assertion by Cegarra-Navarro et al. (2011) that firm performance and exploration and exploitation of knowledge are mediated by unlearning, with Minniti and Bygrave's (2001) position that entrepreneurs learn best by trial-and-error, and with Cope's (2003) assertion that entrepreneurs tend to learn through more gradual, discrete and discontinuous learning events (Cope, 2003).

Entrepreneurs should devise and engage in strategies and mechanisms to increase levels of self-motivation to accept change. Intrinsic motivation to change should be a focus in any organization that desires to produce, support, and develop entrepreneurs; provide entrepreneurial training and education; and spur entrepreneurial thinking in order to increase capabilities in entrepreneurial alertness.

A schema change is necessary for the non-alert individual to become alert. Organizations that train, develop, and educate entrepreneurs should include in their curriculums methods and strategies that invoke individual schema development and change through deep thinking and individual assessment exercises and activities. Entrepreneurs must adapt new alertness behaviors and habits. Behaviors such as frequent

interactions and networking with others; reading various newspapers, magazines, and trade publications; browsing the Internet; and purposeful information seeking are important habits to form when considering increasing alertness. Entrepreneurs should be directed to engage in habit-forming strategies that move them through the final unlearning dimension that seals schema (behavioral) change.

Recommendations for Future Research

Future research is necessary to understand more about the effect that an individual's ability to unlearn has on his or her ability to be entrepreneurially alert. Future research is also necessary to understand individuals that leave the corporate environment to start an entrepreneurial venture; the prior knowledge they have, their previous experiences, the type of information they notice as they scan and search for opportunities, how they associate and connect disparate information, the type of information they use to evaluate and judge opportunities, specific elements of the schema that they use to view the world, and barriers that prohibit their entrepreneurial alertness capabilities. Since the present study used correlational methods, no cause-and-effect relationship was implied between unlearning and entrepreneurial alertness. Future research could employ methodologies other than self-report surveys to test cause-and-effect relationships between the two constructs. A pretest-learn-posttest method is an example of this.

Further, the present study asked respondents why they chose to start their own business, but not why they opted to leave their prior employment. Future research could apply more pointed questions in this area in order to understand respondents thinking relative to their level of unlearning or entrepreneurial alertness prior to startup.

Future research could also focus on comparing younger people with no prior business experience and experienced individuals who have various levels of business experience. The goal here would be to understand how prior knowledge affects unlearning and entrepreneurial alertness processes when an individual launches a venture and as they navigate the entrepreneurial process.

Hispanics/Latinos were underrepresented in the data that was collected (see Appendix C). Future research could consider including incubators and associations that house and specifically support Hispanic/Latino entrepreneurs and their businesses.

Finally, future research could also focus on the elements of effective courses and professional development in entrepreneurship; specifically those components that increase unlearning and entrepreneurial alertness capabilities.

Conclusion

The topics of unlearning and entrepreneurial alertness have professional significance for the fields of entrepreneurship and entrepreneurial learning. This research can inform both the study of unlearning and the study of entrepreneurial alertness. Further, the study can inform and will be an important extension to the field of entrepreneurship. The study may offer important contributions to the fields of behavioral and cognitive sciences as it relates to schema development and change. There are compelling reasons for the need to unlearn in order to become more entrepreneurially alert. Additionally, it is important to understand the impact that an individual's ability to unlearn has on his or her ability to be entrepreneurially alert.

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Appendix A

Email to Directors of Chambers of Commerce, Venture Capital Firms, Business
Incubators, Entrepreneurial Firm Support Organizations, Programs and Associations

Dear Executive Director:

My name is Sequetta F. Sweet. I am a doctoral candidate at St. John Fisher College studying Executive Leadership in the Ralph C. Wilson School of Education. I am interested in studying entrepreneurship and the way entrepreneurs think about their experiences. The inherent benefit of the study is that the entrepreneurs will evaluate themselves in areas that they may not have considered before. The results of the survey could inform entrepreneurship and entrepreneurial learning theory and practice (the way entrepreneur do business and succeed).

I am writing to ask for a distribution list of members of your organization who are entrepreneurs in New York State who might participate in my study. If you are willing, can you please provide the names and email addresses of any entrepreneurs who are members of your organization? Only with your permission will a link to the survey be sent to these individuals.

At your request, the findings and conclusions of the study will be shared with you.

If you have any questions about the study, please feel free to contact me at 585-266-8461, sfs02807@sjfc.edu. My dissertation chair for this project, Dr. Jason Berman, Assistant Dean for Student Affairs in the Bittner School of Business, can also be contacted at 585-385- 8086, jberman@sjfc.edu.

Thank you for your kind consideration and cooperation.

Kind Regards,

Sequetta F. Sweet
Doctoral Candidate
St. John Fisher College
Ed.D. Program in Executive Leadership

Appendix B

Email to Entrepreneurs and Business Owners with Link to Survey

Dear Entrepreneur/Business Owner:

My name is Sequetta F. Sweet. I am a doctoral candidate at St. John Fisher College studying Executive Leadership in the Ralph C. Wilson School of Education. I am interested in studying entrepreneurship and the way entrepreneurs think about their experiences. I am writing to ask for your participation in a survey because you are an entrepreneur in New York State.

There are no risks or costs in completing the survey, and there should be no discomforts in your completing the survey. The inherent benefit is that you will evaluate yourself in areas that you may not have considered before.

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. Subject identities will be kept confidential by removal of names and email addresses from the results.

Your participation is voluntary.

Your rights:

As a research participant, you have the right to:

1. Have the purpose of the study, and the expected risks and benefits fully explained to you before you choose to participate.
2. Withdraw from participation at any time without penalty.
3. Refuse to answer a particular question without penalty.
4. Be informed of appropriate alternative procedures or courses of treatment, if any, that might be advantageous to you.
5. Be informed of the results of the study.

Your continuation in completing the survey indicates that you have read and understand the information provided above and that you willingly agree to participate.

If you have any questions about the study, please feel free to contact me at 585-266-8461, sfs02807@sjfc.edu. My dissertation chair for this project, Dr. Jason Berman, Assistant Dean for Student Affairs in the Bittner School of Business, can also be contacted at 585-385- 8086, jberman@sjfc.edu.

If you decide to participate, please click this link → [launch the survey](#). Completing the survey will require about 20 minutes of your time.

Thank you for considering participating in my study.

Kind Regards,
Sequetta F. Sweet
Doctoral Candidate
St. John Fisher College
Ed.D. Program in Executive Leadership

Appendix C

Demographics of Validated Respondents

Gender			Level of Education		
Male	45	56%	Less than High School diploma	0	0%
Female	30	38%	High School diploma	0	0%
Did not identify Gender	5	6%	Some College	5	6%
			Associates degree	2	3%
			Bachelors degree	19	24%
Age Range			Some Masters degree	4	5%
Less than 25 years old	0	0%	Masters degree	32	40%
25-34 years old	4	5%	Some Doctorate degree	4	5%
35-44 years old	8	10%	Doctorate degree	10	13%
45-54 years old	24	30%	Did not identify Level of Ed.	4	5%
55-64 years old	24	30%			
65+ years old	14	18%	Role in Previous Organization		
Did not identify Age	6	8%	Skilled/Trades	2	3%
			Professional	28	35%
Race/Ethnicity			Administrative	3	4%
Asian/Pacific Islander	1	1%	Supervisor	2	3%
Black/African American	12	15%	Management	18	23%
Hispanic/Latino	1	1%	Senior Mgt/Exec. (C-Level)	21	26%
Mixed Race	2	3%	Teacher	1	1%
White	56	70%	Did not identify Role in Prev. Org	5	6%
Did not Indicate Race/Ethnicity	8	10%			
			Primary Reason for Starting Business		
			Unemployed due to layoff	8	10%
			Did not like pres. work situation	22	28%
			Opp. to develop my own idea	5	6%
			Opp. presented by someone else	28	35%
			Be my own boss and make money	7	9%
			Other	6	8%
			Did not indicated reason	4	5%

Appendix D

Demographics of Validated Respondents' Entrepreneurial Firms

Industry Sector			# Years in Business		
Agricultural	0	0%	<1 year	3	4%
Business Services	21	26%	1-2 years	6	8%
Construction	1	1%	3-4 years	10	13%
Education/Training	7	9%	5-7 years	15	19%
Finance, Insurance or Real Estate	5	6%	8-10 years	10	13%
Health Services	7	9%	10+ years	31	39%
High Technology	14	18%	Did not indicate # Yrs in Business	5	6%
Legal Services	0	0%			
Manufacturing	3	4%	# Employees		
Retail	1	1%	1 employee	22	28%
Sustainability/Green Technology	7	9%	2-10 employees	38	48%
Transport., Communication, Utilities	1	1%	11-49 employees	13	16%
Wholesalers	2	3%	50-149 employees	2	3%
Other	7	9%	150-499 employees	0	0%
Did not indicate Industry Sector	4	5%	500+ employees	0	0%
			Did not indicate # of Employees	5	6%