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Pepperdine University  
Graduate School of Education and Psychology

THE INFLUENCE OF PERSONALITY ON INNOVATION:  
A PHENOMENOLOGICAL STUDY

A dissertation submitted in partial satisfaction  
of the requirements for the degree of  
Doctor of Education in Organizational Leadership

by

Brianna Bendotti

January, 2017

Eric Hamilton, Ph.D. – Dissertation Chairperson

This dissertation, written by

Brianna Bendotti

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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## VITA

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## ABSTRACT

Innovation is often considered the lifeblood of the 21<sup>st</sup> century business enterprise. However, many organizations struggle to best position their human resources to innovate and drive change within the culture. This qualitative phenomenological study explored the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs. The study explored how ENXPs experience observing, experimenting, networking, questioning and associating when innovating, and how ENXP entrepreneurs and intrapreneurs have applied innovation practices to their business. For this purpose, the researcher conducted individual interviews with 12 participants of the ENXP (ENFP and ENTP) Myers Briggs Type Indicator (MBTI) type. The researcher developed and used 7 open-ended interview questions based on the 3 foundational research questions. The interview data was collected and analyzed and the findings revealed that ENXPs experience innovation through the MBTI functions of extraversion, intuition and perceiving. An analysis also revealed that ENXPs have a strong propensity towards the 5 innovation behaviors of observing, experimenting, networking, questioning, and associating. The findings included valuable insight into the impact of people on the innovation process, the experience of learning and synthesizing information to innovate, the impact of spontaneous living on organizational innovation, innovation initiated and developed using each of the 5 behaviors, the important role of questioning in the innovation process, the importance of partnering with a team, and the ENXP entrepreneur and intrapreneur focus on external improvement. The knowledge acquired is critical to organizational innovation and yields lessons that can be used to transform how individual contributors are leveraged within organizations.

## Chapter 1: Introduction

Pasher and Ronen (2011) posit that business leaders increasingly realize that continuous innovation is imperative to the survival of an organization. As organizations recognize the value of innovation in establishing and maintaining a competitive advantage, human resources departments are tasked with creating a culture of innovation. To date, this has manifested in attempts to create innovation-inspiring environments as seen in companies like Zappos and Google, which seek to provide employees with an open forum for creative ideas (Birkinshaw & Duke, 2013). As Bondarouk and Kees Looise (2005) point out, the lack of such a culture may lead to employee rejection of innovation.

Some organizations do not properly train and involve employees concerning the use and adoption of innovation. When innovation is not prioritized, this is often a symptom of a larger, systemic lack of employee engagement. It is possible for this disconnect with employees to result in missed opportunities to foster innovation and a gap between management objectives and employee desires (Bondarouk & Kees Looise, 2005).

Chung (1997) explains that when considering innovation in the technology sector, employee participation in the planning process and the implementation of a pilot program helps empower workers and create a culture promoting employee ownership of innovation. A Ferrari manufacturing case study related to the implementation of a redesigned work environment created to encourage innovation can prove effective (Invernizzi & Romenti, 2012). These findings suggest that an organization's human resources management unit has an opportunity to ensure employee participation in innovation project planning to foster a positive company culture and foster innovation. While these practices can impact the organizational level, they often do not address the maximization of individual contributors.

At the individual level, in the 1980's several scholars explored whether or not particular personality traits were associated with innovation and entrepreneurship. The results seemed indeterminate and no clear connection was made consistently (Crant, 1996). As a result, much of the research started to focus on the innovative cultures and specific behaviors associated with innovation. However, some point out that the personality-based research may have ended prematurely (Crant, 1996). This study aimed to explore this neglected area, specifically.

### **Background**

With the rise of innovation occurring throughout the world, Herson (2012) predicts that by the year 2030, the majority of product development and advancements in the areas of technology, science, and health care will be researched, developed, and manufactured throughout Asia and South America. With the growth of international development, organizations are pushed to differentiate themselves in the marketplace. As a result, a firm's ability to innovate is becoming an increasingly valuable commodity (Oly Ndubisi & Iftikhar, 2012).

Presently, many businesses implement practices associated with effectively fostering innovative company cultures. As explained by Mazzanti, Pini, and Tortia (2006), human resources management has an opportunity to focus efforts on establishing an innovation-inspiring culture through the creation of an organizational environment employees perceive as positive. Examples of popular practices include allowing employees free time to explore creative endeavors, expanded roles where employees have an opportunity to perform and experiment with job functions outside of their primary roles, innovation related competitions among employees or employee groups, and open forums to allow employees to communicate with and connect to colleagues embarking on innovative projects (Birkinshaw & Duke, 2013).

Most innovation research explores the dynamics between personal (or employee) innovation, organizational innovation and environmental innovation to identify ways firms can become more innovative; the innovation component found to be the most significant contributor to driving innovation in a sustainable way is through organizational innovation (Ling & Nasuridin, 2010). For the most part, research on innovation has historically focused on the organizational level—exploring the role of culture in fostering innovation and attributing and evaluating innovation successes and failures against changes in external factors such as population growth, and the size of the organization (Damanpour & Schneider, 2006). Although some research explores the role of management in driving innovation, little research has been done regarding the potential to position employees in roles to heighten organizational innovation throughout the company.

The research shows that human resources and organizational leaders often employ personality and psychometric tests to better understand employee strengths and areas for growth; these tests are used to strategically position employees. One of the most widely used instruments is the Myers Briggs Type Indicator (MBTI). MBTI was created in 1942 by Carl Jung, and was produced to identify individual psychological type (Isaksen, Lauer, & Wilson, 2003). MBTI gained global recognition as a personality assessment that evaluates an individual's information gathering, decision-making practices, orientation to the world, and interactions with others (Daisley, 2011). These functions are evaluated through assessing extraversion or introversion (E or I), sensing or intuition (S or N), feeling or thinking (F or T), and perceiving or judging (P or J). Designed with the goal of assisting individuals in the identification of strengths and an increased awareness of weaknesses, the MBTI is used worldwide by academicians and business leaders (Horton, Foucar-Szocki, & Clark, 2005).

According to temperament theory reveals, every person has a preference for each of the four Myers Briggs Type Indicator (MBTI) functions: extraversion (E) or introversion (I), sensing (S) or intuition (N), thinking (T) or feeling (F), and judging (J) or perceiving (P) (Passmore, Holloway, & Rawle-Cope, 2010). While an individual is able to function using non-preferred functions, operating within the individual's MBTI preferences will increase overall comfort and energy (Passmore et al., 2010). When subjected to high-stress circumstances most people will become acutely drawn towards their preferred functions because the preferred function is more familiar and requires no effort, whereas operating in non-preferred functions typically requires concerted effort.

The first of the four dichotomies is the MBTI preference for introversion or extraversion. Introverts focus energy inward towards thoughts, personal experiences. Extraverts, on the other hand, gather energy from the environment and direct energy outwards to people and the outer world, which serves to invigorate and motivate the extravert. Extroversion is associated with more external action and interpersonal interaction (Isaksen et al., 2003).

Sensing and intuition are the two preferences for perception that make up the second dichotomy, where perception is defined as, "All the ways of becoming aware of things, people, events, or ideas and included the gathering of information, seeking of sensation and inspiration, as well as the selection of various stimuli" (Isaksen et al., 2003, p. 345). Sensors use the five senses to experience an immediate, concrete reality. Intuitives are future-focused and perceive and process information in terms of possibilities, connections and patterns.

The third MBTI dichotomy is thinking or feeling and both thinking and feeling represent ways of making decisions or coming to a conclusion. After using the perception preference for intuition or sensing, an individual uses either thinking or feeling to choose a response to the

stimuli (Myers, McCaulley, Quenk, & Hammer, 1998). Thinkers will use logic and reasoning to make a decision that may be characterized as objective, while feelers use personal and group ideals to make decisions that may be characterized as subjective. Feelers consider the thoughts and feelings of others as well as group values when making decisions, while thinkers practice decision-making that is less personal and is more focused on what the thinker perceives as just, fair, and logical (Isaksen et al., 2003).

The final MBTI dichotomy of judging or perception was added after Jung's initial theory by Myers and Briggs (Isaksen et al., 2003). This preference represents the way in which individuals orient themselves to the world and achieve closure. Perceivers present as inquisitive, unplanned, and flexible as perceivers prefer to continue to gather information until a decision is required and will maintain the observer role until that point. On the other hand, those who prefer judgment seek closure quickly, are decisive, and are often seen by others as more organized (Isaksen et al., 2003).

The personality traits of employees play a large part in how an organization functions and operates and the employee composition has the potential to determine its success or failure (Montequín, Fernández, Balsera, Villanueva, & Nieto, 2013). Knowing this, organizations will often use instruments such as MBTI to assess employees, evaluate the results of their personality tests and then place individuals in roles considered to be best suited for their personality profiles; this is done to leverage personality type to the benefit of the organization. The MBTI takes into account the complexity of traits often associated with effective "soft skills" such as communication, problem solving, decision-making and interpersonal relations which all influence team and organizational success. Today, organizations are receptive to the idea of using personality type to effectively position employees on teams or in careers.

When evaluating various jobs or teams, research shows that certain personality types consistently gravitate to particular roles or jobs (Cohen, 2013). For example, a study involving 280 project managers reveals that the majority of project managers shared a high degree of specific personality characteristics considered well suited for managerial positions in contrast to the general population. Similarly, another study involving 212 athletic coaches who took the MBTI revealed several shared personality types.

### **Statement of the Problem**

Robbins & Judge (2013) warn that, “Today’s successful organizations must foster innovation and master the art of change, or they’ll become candidates for extinction” (p. 20). While the concepts of personal and organizational innovation have become popular corporate ideals, they remain rather ambiguous and nebulous ideas. As a result, executive leaders and human resources professionals—among others—struggle to know how precisely to position human capital to foster innovation.

This topic is important is because organizations increasingly pursue innovation as a valuable commodity to promote global competitiveness, but business leaders are often unclear as to which practical approaches serve to create innovative corporate cultures (Wichitchanya & Durongwatana, 2012). Because innovation remains a valuable albeit almost mystical concept for many business leaders, these leaders are largely unable to address personnel related innovation in tangible ways. To elucidate, many organizations understand the concept of product or service related innovation. However, due to a prominent focus on organizational innovation, most organizations struggle to accomplish the goal of fostering innovation at the individual contributor level (Wichitchanya & Durongwatana, 2012).



At the same time, human resource paradigms shifted in recent years to emphasize a more prominent and critical role human resource units occupy as strategic business partners, rather than exclusively as in administrative support function (Wichitchanya & Durongwatana, 2012). Human resources management is an organizational area designed to motivate staff to create an effective workforce through such practices as training, disciplining, conflict resolution, rewards and incentive programs and strategic staffing (Robbins & Judge, 2013). Human resources professionals are increasingly called upon to help foster a healthy corporate culture that promotes innovation (Wichitchanya & Durongwatana, 2012). At its best, human resources management works to inspire employee creativity and innovative thinking within an organization (Wichitchanya & Durongwatana, 2012). Without knowledge of how the ability to innovate at the individual contributor level can be analyzed based on employee personality type and functions, organizational leaders and human resources professionals are at a disadvantage.

### **Statement of the Purpose**

The purpose of this study is to explore the lived experience of organizational innovation among extroverted intuitive perceiving (ENXPs) entrepreneurs and leaders in innovation focused roles (intrapreneurs). This phenomenological qualitative study collected cross-sectional data, and the specific variable identified for study was the participants' experience of each of the five personal innovation behaviors as defined by Dyer, Gregersen, and Christensen (2011): associating, questioning, experimenting, observing, and networking. For the purpose of this study, the variable of innovation was defined as product, process, market, and management (or policy) innovation. To further explicate, product innovation pertains to ideas, products and services; process innovation relates to operations and support services; market innovations apply

to other markets and managerial innovation refers to policy-related innovation (Avermaete, Viaene, Morgam, & Crawford, 2003).

According to MBTI theory, every person has a preference for each of the four MBTI dichotomies. While an individual is able to function using non-preferred functions, operating within the individual's MBTI preferences will increase overall comfort and energy (Passmore et al., 2010). This study explored the lived experiences of executives using specific MBTI functions. The MBTI functions of extroversion, intuition, feeling and perceiving are associated with innovation and creativity (Houtz, Selby, Esquivel, Okoye, & Peters, 2003). For this reason, the researcher focused on subjects who score high in extroversion, intuition, and perceiving in particular. The executives in this study represented the ENTP, and ENFP functions on the MBTI and each participant had the ability to disclose the results of their MBTI scores before participating in the study.

### **Research Question**

This study was interested in the experience of innovation among ENXP entrepreneurs and leaders in innovation focused roles. The primary research questions answered in this study were:

1. Research Question 1: What is the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs?
2. Research Question 2: How do ENXPs experience observing, experimenting, networking, questioning and associating when innovating?
3. Research Question 3: How have ENXP entrepreneurs and intrapreneurs applied innovation practices to their business?

## Significance of the Topic

Human resource management practices have an impact at the organizational level (Ling & Nasuridin, 2010). Thus, the ability to strategically identify innovation patterns associated with personality type and to use this knowledge in staffing and organizational structure has the potential to positively influence the overall direction of a company. In a global market that necessitates organizational innovation for a firm's competitive advantage, the findings from this study should benefit the competitive advantage of firms seeking to promote organizational innovation in a global market.

This study aimed to provide organizational leaders and human resources professionals with valuable insight related to individual innovation patterns. When individual contributors can be assessed and valued as contributors towards innovation, businesses may be better able to create job roles and functions that maximize natural strengths. Moreover, by aligning innovation patterns with the globally recognized and easily accessible MBTI, organizations may be able to realign staff structures quickly to maximize human resources.

## Key Definitions

**Disruptive innovation.** The theory developed by Christensen and J. L. Bower emerging from their 1995 *Harvard Business Review* article regarding disruptive technologies (Bower & Christensen, 1995). Disruptive innovation theory holds that innovation at the organizational level has the opportunity to disrupt the market and reposition a company to market leader status (Cortez, 2014).

**Employee-led innovation.** This includes innovation that emerges from people throughout an organization who contribute towards overall organizational innovation. Employee-

led innovation may result in new products, processes and business models (Birkinshaw & Duke, 2013).

**Entrepreneur.** Ries (2011) defines an entrepreneur as “a human institution designed to create new products and services under conditions of extreme uncertainty... In fact, I believe ‘entrepreneur’ should be considered a job title in all modern companies that depend on innovation for their future growth” (p. 8).

**Innovation.** Ramalingam, Scriven, and Foley (2009) define innovation as “dynamic processes which focus on the creation and implementation of new or improved products and services, processes, positions and paradigms” (p. 3). Innovation is the introduction of new ideas or practices and products implemented or launched in the market. Management expert Peter Drucker points out that innovation is used by entrepreneurs to generate new revenue streams for the business. The ability for innovation to generate revenue through the idea, business or process is what distinguishes innovation from invention—which may represent one of the aforementioned components but yet fail to generate revenue (Wichitchanya & Durongwatana, 2012).

**Innovator’s DNA.** *The Innovator’s DNA* research is based on comparing and contrasting the innovation patterns associated with 500 executives (or non-innovators) and 500 innovators (defined and categorized as start-up entrepreneurs, corporate entrepreneurs, product innovators, or process innovators). Five key behaviors emerged among the innovators: associating, questioning, observing, networking and experimenting (Dyer et al., 2011).

**Phenomenology.** A qualitative research approach used by researchers to discover and assess the meaning associated with life experiences of the subjects. Phenomenology looks at a shared phenomenon amongst subjects through evaluating their lived experiences. Methods are

deployed to bring a degree of objectivity to concepts and experiences that are often considered purely subjective, such as feelings, perceptions, insights and judgements (Richards & Morse, 2012).

**Qualitative research.** While quantitative research emphasizes large, numerical data sets and a structured approach with more objective results using surveys and similar tools, qualitative research is more exploratory. Qualitative research delves into underlying themes and patterns through unstructured and semi-structured data collection methods. Researchers using qualitative methods will typically conduct interviews, focus groups or observation sessions with smaller sample sizes (Richards & Morse, 2012).

**Type Theory.** The purpose of type theory is to help individuals understand themselves, to identify areas of personal improvement, and to develop an appreciation of the personal characteristics that make others unique (Varvel, Adams, Pridie, & Ruiz Ulloa, 2004).

### **Key Assumptions**

This study was impacted by the following assumptions:

- MBTI is a viable assessment for personality type and will remain so for the foreseeable future.
- The entrepreneurs and intrapreneurs selected are able to speak to their experience of innovation.

### **Limitations of the Study**

A possible limitation of the study was that there is not much recent information available regarding the relationship between personality type and personal innovation, which is precisely what this study aims to explore. While much research was completed in the 1980's regarding personality traits associated with entrepreneurs and innovators, prominent scholars such as

Brockhaus and Horwitz (1986) and Low and MacMillan (1988) asserted that the relationship between personality and innovation was largely insignificant (Crant, 1996, p. 42-43). As a result, in recent decades the focus of much research has been on exploring the behavioral basis of innovation and entrepreneurship. Even the iDNA assessment itself was created to examine the behaviors associated with innovation and it marks a departure from the 1980's goal of identifying the personality profile of a successful innovator.

### **Summary**

This study sought to explore the relationship between personality type and personal innovation. This effort is important because by better understanding whether personality type impacts the degree to which an individual innovates as well as the type of innovation behavior in which the employee is likely to engage, organizations will be better equipped to increase overall organizational effectiveness. Moreover, by gaining insight into their innovation and MBTI preferences, employees themselves could use the knowledge to strategically identify the ideal work environment, thereby increasing workplace satisfaction levels. The next chapter includes a thorough review of the germane scholarly literature related to innovation and personality type. This literature review formed the basis of the theoretical framework and foundation on which the research rested.

## Chapter 2: Review of Relevant Literature

[Innovation is] not about money. It's about the people you have, how you're led, and how much you get it.

—Steve Jobs, *Fortune*, November 9, 1998

The purpose of this literature review was to examine research relevant to this topic, in part to support the development and application of the study's theoretical framework. To this end, chapter two examined the current research related to type theory, ENXPs, organizational innovation, entrepreneurship, intrapreneurship and innovator personality and behaviors. Further, it was necessary to define innovation and examine current research findings related to innovation—specifically, how it is manifested, measured, practiced and connected to personality. After discussing the personality assessments and innovation patterns, the chapter concludes with a discussion on the relationship between the current literature's findings and this present study.

### Organizational Innovation Overview

Robbins and Judge (2013) issue the warning that, “Today's successful organizations must foster innovation and master the art of change, or they'll become candidates for extinction” (p. 20). While the concepts of personal and organizational innovation have become popular corporate ideals, they remain rather ambiguous and nebulous ideas. As a result, executive leaders and human resources professionals—among others—struggle to know how precisely to position human capital to foster innovation.

This topic is important because organizations increasingly pursue innovation as a valuable commodity to promote global competitiveness, but business leaders are often unclear as to which practical approaches serve to create innovative corporate cultures (Wichitchanya & Durongwatana, 2012). Because innovation remains a valuable albeit mystical concept for many business leaders, those business leaders are largely unable to address personnel related

innovation in tangible ways. To elucidate, many organizations understand the concept of product or service related innovation. However, most organizations struggle to visualize how to go about fostering innovation at the individual contributor level (Wichitchanya & Durongwatana, 2012).

**The evolution of human resources.** At the same time, human resource paradigms shifted in recent years to emphasize a more prominent and critical role human resource units can play in business strategy, rather than exclusively in a technical or administrative support function (Wichitchanya & Durongwatana, 2012). Human resources management is increasingly viewed as an organizational area designed to motivate staff to create an effective workforce through such practices as training, conflict resolution, rewards and incentive programs and strategic staffing (Robbins & Judge, 2013). Human resources professionals are increasingly called upon to help foster a healthy corporate culture that promotes innovation (Wichitchanya & Durongwatana, 2012). At its best, human resources management works to inspire employee creativity and innovative thinking within an organization (Wichitchanya & Durongwatana, 2012). Without knowledge of how the ability to innovate at the individual contributor level can be analyzed based on employee personality type and functions, organizational leaders and human resources professionals are at a disadvantage.

Because human resource management practices have an impact at the organizational level (Ling & Nasurdin, 2010), the ability to strategically identify innovation patterns associated with personality type and to use this knowledge in staffing and organizational structure has the potential to positively influence the overall direction of a company. In a global market that necessitates fostering innovation at the individual contributor level, firms will explore how to best leverage staff.



This study aims to provide organizational leaders and human resources professionals with valuable insight related to individual innovation patterns. If individual contributors can be assessed and valued as contributors towards innovation, businesses would be able to create job roles and functions that maximize natural strengths for such contributions. Moreover, by aligning innovation patterns with the globally recognized and easily accessible MBTI, organizations may be able to realign staff structures quickly to maximize human resources.

Pasher and Ronen (2011) posit that business leaders increasingly realize that continuous innovation is imperative to the survival of the organization. As organizations recognize the value of innovation in establishing and maintaining a competitive advantage, human resources departments are tasked with creating a culture of innovation. To date, this has manifested in attempts to create innovation-inspiring environments as seen in companies like Zappos and Google, which seek to provide employees with an open forum for creative ideas (Birkinshaw & Duke, 2013). As Bondarouk and Kees Looise (2005) point out, the lack of such a culture may lead to employee rejection of innovation. Some organizations do not properly train and involve employees concerning the use and adoption of innovation. When innovation is not prioritized, this is often a symptom of a larger, systemic lack of employee engagement. It is possible for this disconnect with employees to result in missed opportunities to foster innovation and a gap between management objectives and employee desires.

Presently, many businesses implement practices associated with fostering innovative company cultures effectively. As explained by Mazzanti et al. (2006), human resources management has an opportunity to focus efforts on establishing an innovation-inspiring culture through the creation of an organizational environment employees perceive as positive. Examples of popular practices include allowing employees free time to explore creative endeavors,

expanded roles where employees have an opportunity to perform and experiment with job functions outside of their primary roles, innovation related competitions among employees or employee groups, and open forums to allow employees to communicate with and connect to colleagues embarking on innovative projects (Birkinshaw & Duke, 2013).

Chung (1997) explains that when considering innovation in the technology sector, employee participation in the planning process and the implementation of a pilot program helps empower workers and create a culture promoting employee ownership of innovation. A Ferrari manufacturing case study related to the implementation of a redesigned work environment created to encourage innovation can prove effective (Invernizzi & Romenti, 2012). These findings suggest that human resources management has an opportunity to ensure employee participation in innovation project planning to foster a positive company culture and foster innovation. While these practices can impact the organizational level, they often do not address the maximization of individual contributors.

### **Entrepreneurship and Intrapreneurship**

Ries (2011) defines entrepreneurial ventures or startups as, “organizations dedicated to creating something new under conditions of extreme uncertainty” (p. 8). For an organization to be considered innovative, it is to maintain an innovative organizational posture. According to Okhomina (2010) innovative organizational postures are seen in,

Organizations which engage in product-market or technological innovation, risk taking behavior, and proactiveness, and these particular behavioral patterns are recurring. These patterns pervade the organization at all levels and reflect the top managers' overall strategic philosophy on effective management practice. (p. 3)

Innovation is considered to be the key determining factor regarding whether or not an organization is truly entrepreneurial (Audretsch, 2012). Innovation and entrepreneurship existing separately from the overall organizational culture and context creates an even greater necessity to effectively evaluate the performance criteria of the entrepreneurial or innovative activity. Some of the ways innovation is measured within organizations are through examining the number of new patented inventions, products and processes, the amount of funding allocated towards making research and development investments and exploring the portion of overall sales comprised of innovative products.

**Entrepreneurship as an economic driver.** Innovation can also be considered in a larger societal context, exploring its role as an economic development driver (Schumpeter, 1942). Economist and political scientist Schumpeter (1911) believed entrepreneurship to be the primary driving factor for economic development. Schumpeter (1942) posited that an entrepreneur's propensity towards innovation is what sets the entrepreneur apart from other economic influences such as real estate. Entrepreneurs develop and reshape production and output by developing new products and patterns of conducting business. The process of challenging the status quo and disrupting a stable environment with fresh ideas and new perspectives is critical to the long-term economic viability of a society. Moreover, the role of entrepreneurs is critical in ensuring a region achieves economic vitality and relevance through competitiveness.

**The popularity of entrepreneurship.** Entrepreneurship is ever more becoming a primary interest of business leaders and scholars (Audretsch, 2012). As one example, the Academy of Management—a professional association—noted a significant increase in membership in its entrepreneurial division, which is now its largest unit. While many business

fields such as finance and accounting seem static, entrepreneurship is dynamic, future-focused and boasts changes members find exciting.

**Intrapreneurship.** Intrapreneurship is a multi-faceted phenomenon (Sharma & Chrisman, 1999) that encompasses the process by which a person or group creates an entrepreneurial unit, develops a new business, or reimagines innovation within an established structure (Felício, Rodrigues, & Caldeirinha, 2012). For this reason, some publications and organizations refer to intrapreneurship as corporate entrepreneurship or corporate venturing. Sharma and Chrisman (1999) point out that intrapreneurship (or corporate entrepreneurship) is focused on the development of processes and structure that serve to create new businesses, services, products, and processes that refresh and invigorate the organization. When innovators operate within an organization rather than independently as entrepreneurs, challenges can arise when the independence, risk-taking, drive and tolerance for ambiguity intrapreneurs exhibit are not valued as much as these traits are when manifesting outside of an organization in a purely entrepreneurial role.

### **Business Practices Employed by Entrepreneurs and Intrapreneurs**

The success of an entrepreneur or intrapreneur in today's economy is very much influenced by the ability to innovate in a fast-paced market (Ries, 2011). Business plans are quickly becoming a thing of the past. The tendencies of entrepreneurs and intrapreneurs influence and inform business practices to increase speed to market, encourage risk and experimentation, and maximize vision casting strengths. As a result, best practices have emerged in the entrepreneurial world.

**Lean startup method for innovation.** Entrepreneurial ventures are using the Lean Startup Method (described below) for a new approach to managing a startup business and driving

innovation. It is not enough to have a creative idea and a nebulous concept of a target market. Rather, a successful entrepreneurial venture will get specific when identifying groups (and even individuals) who will use and benefit from the service or product and will have a plan in place to ensure the product and market connect (Bygrave & Zacharakis, 2010). For this reason and others, having a plan in place for the business is critical. Instead of engaging in cumbersome and complex analytics and business plans, new startups are encouraged to adopt the Lean Startup Method. This is because businesses often focus on perfecting the product or service that is offered and as a result, the startup spends a great deal of time creating new versions of a product and evaluating product or service performance. As a result, the business becomes consumed with efficiencies and seemingly limitless ways to make the product or service better instead of discovering quickly if the innovation is viable (Ries, 2011).

The Lean Startup Method emphasizes a single-minded focus on market capability when it comes to evaluating product or service viability. This philosophy has the potential to save considerable resources and allow startups to see quickly and easily how well the product or service will perform. If the organization is going to fail, it is best for it to fail quickly, as it is said (Ries, 2011). While a bit simplistic, this philosophy is helpful to keep in mind. The first phase includes defining, learning and experimenting with the company business model. Next, the business is encouraged to take the leap into the market, test the market response, and measure performance. Depending upon the outcome of the performance evaluation, the business may decide to either persevere in the same direction or pivot to try a new approach or dissolve the business. Finally, the phase three focuses on accelerating the business through a batch evaluation, growing, adapting and innovating to maintain success (Ries, 2011). The Lean Startup Method helped focus resources immensely and provide the team with clear direction as

many team members had previously mentioned feeling overwhelmed and unsure about how to spend their time.

**Adopting a mantra.** While having a product development or initiative evaluative tool in place is essential, it is not the only vital consideration. As Kawasaki (2004) explains, it is important for entrepreneurial units to make meaning of their work and stick with a mantra. A mantra is simpler and shorter than a mission and can be easily repeated by staff at all levels. This practice is compatible with the well-known drive and vision casting abilities of many entrepreneurs. For Wendy's it might be "healthy fast food," as an example. When an entrepreneur's focus is on making a positive impact, the staff and customers tend to respond well. When a team is focused on a mantra, it makes achieving the organization's mission a natural outcome.

### **Prior Research on the Connection between Innovation and Personality**

As Okhomina (2010) points out,

Linking the relationship between psychological traits and entrepreneurial postures is imperative for theoretical and empirical reasons, because entrepreneurs with a certain psychological traits may have a tendency to exhibit certain degree of entrepreneurial posture and showing this tendency may provide benefits to the organization. (p. 3)

In the 1980s several scholars set out to explore whether or not particular personality traits were associated with innovation and entrepreneurship at the individual level (Koh, 1995). Most of the research focused on entrepreneurship rather than directly on innovation as entrepreneurs is often the most targeted way to study innovators.

Prior research shows that it may be possible to *create* or develop innovators in specific fields such as academia and agriculture (Shariff & Saud, 2009). However, much of this research

was based on demographics focused on examining the degree to which entrepreneurial tendencies were found in various groups of people based on factors such as ethnicity, marital status, educational level, family size, work experience, age, gender, socio-economics status, and religion. In some cases, attitude, character, and personality were also examined.

According to Robinson, Stimpson, Huefner, and Hunt (1991), when it comes to measuring innovation or entrepreneurship using personality based assessments, the challenges have arisen primarily because:

1. Research methodologies that were not developed specifically to be used in measuring entrepreneurship;
2. Different instruments that purport to measure the same concept actually correlate poorly;
3. Personality theories are intended for use across a broad spectrum of situation, measuring general tendencies; and
4. The need for theoretical model that both influence and are influenced by activities in the environment that are interactive. (pp. 14-15)

A 1996 study exploring the relationship between innovation and proactive personality represented the first time proactivity was associated with entrepreneurial intentions through empirical research, although researchers in the past alluded to the relationship between the two variables (Crant, 1996). Prior to this study, there was a nearly decade gap in the research regarding personality and entrepreneurial (or innovative) behavior. One of the barriers to continued research and a general criticism was the lack of consistency in terminology—each researcher seemed to have a unique definition of entrepreneurship and some believed creativity and innovation were similar, or even synonymous. As a result, much of the subsequent research

regarding innovation focused on the organizational level and how innovative corporate cultures are created. However, some point out that the personality-based research may have ended prematurely (Crant, 1996).

In many ways, entrepreneurs have become the heroes of the global market (Grigore, 2012). The term “entrepreneur” conjures up images of brave souls who dared to take great risks to pursue a life dream. In many ways the persona is based in reality. It is true that entrepreneurs have the ability to combine opportunism with innovation to achieve success in new markets.

**The entrepreneur.** Particular characteristics have become associated with the personalities of entrepreneurs. Entrepreneurs were found to have a high need for achievement, an internal versus external locus of control, a great tolerance for (and even an appreciation of) ambiguity, and a high level of self-confidence (Robinson et al., 1991). Moreover, entrepreneurs have been shown to have strong creativity, futuristic and visionary thinking, a desire to explore opportunities others dismiss, and a willingness to engage in risk-taking behaviors.

**Proactive personality and the need for achievement.** A high level of achievement is associated with innovation and entrepreneurship because individuals who value personal success are more likely to pursue self-driven initiatives to achieve the desired success level (Ho & Koh, 1992). Robinson et al. (1991) note that innovators exhibit strong self-esteem and confidence levels when embarking on risky endeavors and this confidence sets them apart from non-innovators. Fundamentally, the innovator believes he or she will achieve the goals they have outlined and this confidence can serve as a self-fulfilling prophecy. In 1996, a study was conducted to evaluate entrepreneurial (or innovative) associations using a sample of 181 students with an average age of 23 years old, with the sample divided up into half undergraduates and half graduate students. Roughly two thirds were male and one third of the sample was female



students. Proactive personality was measured using the proactive personality inventory instrument created and validated by Bateman and Crant in 1993 (Crant, 1996).

The results revealed a strong association between entrepreneurial intentions and the proactive personality scale (Crant, 1996). Proactive personality describes individuals who take the initiative to accomplish a task in spite of challenging circumstances. Proactive individuals are action-oriented and steadfast when it comes to achieving identified goals. While the locus of control is a cognitive aspect of personality that references how an individual views their environment, proactive personality refers to how people initiate and drive change to alter their surroundings.

**Internal versus external locus of control.** Entrepreneurs have a desire to assume internal control and take on risk internally (Brockhaus, 1982). It is important to the entrepreneur to feel the ability to control the future and not look to external sources for control. In fact, the desire is so strong it can be described as a need for personal control that in part inspires the entrepreneur to create the business (Greenberger & Sexton, 1998). While many employees view events as happening “to them” and often take on the role of a passive observer, the entrepreneur tends to take control of the situation and see themselves in the driver’s seat (Grigore, 2012). Many entrepreneurs left companies and bosses to have the opportunity to be the boss and assume total control of an organization. Entrepreneurs are often highly independent individuals who resist external control, whether it take the form of a micro-managing supervisory relationship, a strict bureaucratic environment, or others rules and regulations.

**High tolerance for ambiguity.** Because it allows them to overcome challenges and achieve, the ability to thrive in ambiguous situations is directly related to the entrepreneur’s creativity and personal satisfaction (Carland, Hoy, Boulton, & Carland, 1984). The ability to

tolerate and perform in an ambiguous environment is critical to long-term innovation and creativity and innovators are known to create and seek out indefinite situations that others may avoid (Mitton, 1989). While many employees avoid ambiguity, entrepreneurs often thrive in these environments (Schere, 1982). The uncertainty can present a challenge and the entrepreneur sees opportunity amidst the lack of structure. Moreover, they often have a vision for the future that helps them navigate during uncertain times when others are not able to see alternative directions.

**High level of self-confidence.** Entrepreneurs score high in self-confidence and this self-esteem allows them to boldly take on new challenges (Grigore, 2012). While some may shirk when problems arise, the entrepreneur maintains the assurance that a solution to the problem will be found. Entrepreneurs are more likely to initiate action and activity as a result of their confidence. This propensity for taking the initiative often breeds success, which increases confidence even more so.

**Strong creativity.** Entrepreneurs are in the business of generating ideas and they often naturally excel at approaching people, processes and products differently (Caitlin & Matthews, 2001). Entrepreneurs are likely to resist the mundane and pursue novel concepts. The desire to continue to learn and explore inspires new thinking. Entrepreneurs are also committed to continuous improvement and the desire to make things better fosters creative thinking around solutions.

**Futuristic and visionary thinking.** Entrepreneurs notice trends and patterns that give them a pronounced sense of what is to come (Caitlin & Matthews, 2001). Entrepreneurs are able to cast compelling visions of the future that others can grasp. Futuristic thinking is rare and

entrepreneurs tend to possess it, and combined with other aforementioned characteristics such as confidence, independence and creativity, their vision can be contagious.

**Desire to explore opportunities to innovate.** Similar to the entrepreneur's ability to tolerate ambiguity, they also tend to be able to innovate and create solutions others may not see or pursue (Grigore, 2012). Entrepreneurs have a desire for the new and different. The appeal of novelty leads to the development of new technology and products and the exploration of new markets. While the entrepreneur may be the one to introduce the innovative concept, it is often the entrepreneur's team or partner that will ultimately figure out the details to implement the solution.

**Risk taking.** According to Okhomina (2010), risk taking is one of the most distinguishing entrepreneurial personality characteristics. Moreover, the willingness to take risks is strongly correlated with an individual's innovative or entrepreneurial proclivities because entrepreneurship is often associated with personal and financial risk that managers or executives tend to shun (Koh, 1995). Entrepreneurial risk taking in the business sphere often manifests as the pursuit of business ideas others would avoid (Grigore, 2012)

**Intrapreneurs and entrepreneurs compared and contrasted.** When exploring intrapreneurship, most researchers focus on evaluating the intrapreneur's tendencies for risk-taking, innovativeness, proactiveness, and competitive energy (Sharma & Chrisman, 1999). Entrepreneurs and intrapreneurs have much in common, but differ in some regards. Both are primarily motivated by a desire for independence, but entrepreneurs tend to also be inspired to generate money whereas intrapreneurs tend to seek internal advancement and recognition.

When it comes to time management, entrepreneurs tend to operate in a survival mode—putting in whatever hours are required to secure success. Intrapreneurs tend to exhibit more

work-life balance and work less than an entrepreneur but more than the average people leader. Both entrepreneurs and intrapreneurs operate with moderate-risk taking behavior and prefer direct involvement in the business venture, rather than delegation. When failure and mistakes arise, entrepreneurs tend to address them directly; intrapreneurs are more likely to cover mistakes and projects until there is a sense that the work will be positively received. Both exhibit passion for pursuing dreams, but intrapreneurs are more likely to leverage the work and help of coworkers to bring a vision to fruition. Unlike entrepreneurs, intrapreneurs must focus on serving project sponsors in addition to self and customers. Both tend to use transactions and deal-making when influencing through relationships with intrapreneurs operating within a hierarchy. Lastly, entrepreneurs and intrapreneurs tend to come from families with a background described as entrepreneurial or professional or come from a farming family (Hisrich & Peters, 2002).

### **Theories of Dr. Clay Christensen and Associates**

In 1997, Christensen gained global notoriety with his work *The Innovator's Dilemma*. In this research Christensen succeeded in bringing the topic of organizational innovation into the forefront of the corporate world. But Christensen also went on to focus on innovation at the personal level.

**The innovator's dilemma.** *The Innovator's Dilemma* outlined a pronounced problem that organizations face in the race to stay innovative. The dilemma is that “the logical, competent decisions of management...critical to the success of their companies are also the reasons why they lose their positions of leadership” (Christensen, 1997, p. 9). Market leaders rarely recognize when their market is about to be disrupted by a groundbreaking innovation.

Oftentimes, the decisions that led powerful organizations towards failure were made—and the overall unawareness was transpiring—precisely when the companies were receiving

accolades for their work and were at the peak of their industry leader position. The challenge is that effective management centered on putting the customer first and constantly assessing customer needs resulted in these firms forfeiting their position as industry leaders. This happens because these organizations spend time listening to customers and improving their products while new competitors emerge with innovations. The disruptive innovations introduced by competitors essentially take the same business objective or *job to be done* on which the industry leader was focused, but solve the problem (or the customer's primary objective) in a fresh, new way that is oftentimes more affordable (Christensen, 1997).

The key to avoiding the fate of failure is for organizations to focus on the customer's primary objective or as Christensen (1997) explains it as the job to be done, rather than simply improving existing products and services. With so many organizations adopting a customer-centric approach that typically involves continuous product improvement, Christensen's innovators' dilemma represented a paradigm shift. It is important to note that in order to drive the next disruptive innovation and avoid the fate of companies like Kodak, which perished when digital innovation disrupted the market, organizations must identify, strategically position and empower innovative contributors.

**The innovator's DNA.** In *The Innovator's DNA*, Christensen joins researchers Dyer and Gregersen to outline the concept that the ability to innovate is not genetic and that people can work to develop innovative behaviors (Dyer et al., 2011). For supporting research, the authors reference the work of Merton Reznikoff, George Domino, Carolyn Bridges, and Merton Honeymoon. This research team discovered that the creative proclivities of fraternal and identical twins ages 15-22 were attributed to genetics 30% of the time, so creative tendencies were thought to be primarily attributed to nurture versus nature. As additional examples of the

nurture versus nature basis for creative and innovative behavior, Dyer et al. (2011) point out that collectivist cultures or other groups that discourage challenging the status quo tend to see less innovation from individual members.

*The Innovator's DNA* research is based on comparing and contrasting the innovation patterns associated with 500 executives (or non-innovators) and 500 innovators (defined and categorized as start-up entrepreneurs, corporate entrepreneurs, product innovators, or process innovators). Five key behaviors emerged among the innovators: associating, questioning, observing, networking and experimenting. In general, innovation creating behaviors are uncommon and typically do not yield immediate results, but are future-focused, with long-term payoffs (Dyer et al., 2011).

The iDNA assessment is based on the research of Christensen and Christensen's Theory of Disruptive Innovation. Christensen and team studied successful organizational innovators and found that five key behaviors are associated with innovation: questioning, observing, networking, experimenting, and associating. The iDNA assessment was designed to provide test takers with individual innovation scores related to each activity. From there, individuals have the ability to use the results to further develop each of the five characteristics post-test (Dyer et al., 2011).

### **Five Key Behaviors Linked to Innovation**

**Associating.** The first behavior referenced—and what is arguably the cornerstone of the innovator's DNA model—is the practice of associating (Dyer et al., 2011). The associating component is described as the primary component by which the other behaviors function and it is also noted that the other behavior serve to increase an individual's ability to associate thereby making the ability to associate an ever-increasing peculiarity of the innovator. Of all the

innovators assessed using the innovator's DNA assessment, the results revealed that all participants scored in the 70<sup>th</sup> percentile for associating (Dyer et al., 2011).

Associating is a cognitive function that describes how innovators connect the dots between seemingly unrelated patterns or issues. Associating is seen as critical to innovation because it yields new ideas when an intersection of ideas, philosophies or industries occurs. For example, the founder of Salesforce, Marc Benioff, used associating to create the company through drawing connections between Amazon, eBay, and his philosophical and spiritual experiences. Salesforce features like Chatter borrow from Facebook and Twitter, evidencing more associating practices (Dyer et al., 2011).

While associating is a cognitive function, the authors argue that it can be developed and that innovators seek out associating experiences so as to strengthen the association attribute. For example, to foster more questioning, observing, networking and experimenting, innovators are more likely to attend popular *association-intensive* conferences like TED to acquire more information from diverse sources. The brain works by storing information and relating information back to a frame of reference. The broader a body of knowledge in the brain, the more the brain becomes a breeding ground for associating thinking as there is more diverse content from which to draw (Dyer et al., 2011).

**Improving association ability.** To increase associations, innovators practice what is referred to as *zooming in and zooming out*, which involves rotating between paying close attention to details and then shifting to pursue a high-level view of the organization (Dyer et al., 2011). This ever-changing and diverse perspective is found to yield surprising associations. Skype founder Niklas Zennstrom and Apple founder Steve Jobs both describe experiences such as this that often involve intense, magnified scrutiny of the customer experience and then a quick

move back to a strategic view. Another practice endorsed by the researchers is to “mismatch” ideas or create odd combinations of thoughts and patterns to inspire ideas that can lead to innovation (Dyer et al., 2011). Larry Page used this practice when developing Google, by connecting a web search function with an academic citation system he became familiar with as a Stanford PhD student.

*Lego thinking* is another practice that fosters associations and describes how innovators frequently collect ideas and concepts. It is noted that the sheer number of ideas does not necessarily yield innovation, but rather the diversity of ideas and the degree to which the concepts are unrelated. IDEO, an international design and consulting firm, recruits new hires that have expert level knowledge in at least one area, combined with breadth of knowledge in many areas to secure innovation for the organization (Dyer et al., 2011).

Dyer and team provide five additional tips for developing associational thinking abilities. First, individuals are encouraged to force associating by making counterintuitive connections when working on a project or concept. An example is given related to developing a new kitchen appliance by combining the features of a microwave and a dishwasher. Unconventional thinking such as this is shown to yield innovation and develop a stronger ability to associate in adherents (Dyer et al., 2011).

The second recommended practice is to adopt the persona of another organization and the accompanying culture, processes, and intricacies to foster new thinking. Next, the practice of generating metaphors is advised to begin to create associations. The example of questioning how watching television could be more like reading through a magazine is given to illustrate how this encourages the mind to draw associations. Following, the practice of building a collection of interesting items that pique an individual’s interest is recommended to provide an outlet for



creative thinking when items or ideas are revisited at a later date for inspiration. Finally, all issues should be rethought and explored using Michalko's (2006) SCAMPER (substitute, combine, adapt, magnify, minimize, modify, put to other uses, eliminate, reverse, rearrange) to develop new thought patterns (Dyer et al., 2011).

**Questioning.** Innovators show a demonstrated tendency to frequently ask questions and quite often, they ask the questions that others may refrain from posing (Dyer et al., 2011). Questioning has long been associated with creativity and groundbreaking innovations; for example, the majority of Nobel laureates were found to have generated notable success by first focusing on the right questions (Csikszentmihalyi, 1997). Questioning is seen as critical to deciphering solutions. Innovators are more likely than executors or non-innovators to ask questions more often and to ask the questions that disrupt current systems (Dyer et al., 2011). It is not uncommon for these questions to even be considered borderline offensive to some, but innovators tend to see great results by questioning conventional systems and beliefs.

**Improving questioning ability.** Innovators often start questioning by inquiring about the current state of things. By understanding how things are, innovators are better able to empathize with the experiences, preferences and feelings of those impacted by the present state. However, innovators do not stop questioning after they grasp current models; instead, they begin questioning the process of development to look at causal relationships and dynamics. The focus on cause reveals information about motivating factors related to innovative products and ideas that innovators use to create new versions or alternatives (Dyer et al., 2011).

The next phase of questioning involves asking questions related to *why* and *why not* to begin fostering discontent with the status quo (Dyer et al., 2011). At this stage, it is likely that an innovator will repeat various questions until a new concept emerges. The goal is to look at

answers that may seem obvious to the innovator but that surface simply by questioning the possibility of integrating alternatives. Soon after, the innovator is likely to transition towards asking questions revolved around *what if* to look at the potential to test new solutions and ways of doing business. Executives, executors and other non-innovators are less likely to ask what if questions that have the potential to disrupt the status quo and are more likely to refrain from trying new ways of doing things to avoid challenging systems they perceive as reliable (Dyer et al., 2011).

Another tactic deployed by innovators is to practice questioning using constraints such as time, money or resources. Rather than stifling creativity, innovators report that constraints serve to challenge them in an inspiring way to creatively identify workaround solutions. Examples might include asking how a product would change if the customer was only able and willing to pay half the price, or if a certain service or function associated with a product was no longer available, how the product would need to be altered. Overall, innovators have a higher question to answer ratio than non-innovators (Dyer et al., 2011).

**Observing.** Questions alone do not typically serve to inspire innovation; rather, questions combined with thoughtful observation are more effective. Research proves that the more that an individual uses multiple senses, the more likely learning and processing is to occur, and this learning to lead to new insights or breakthroughs (Dyer et al., 2011). Innovators tend to spend time observing people and various environments.

**Improving observing ability.** Innovators—whether they are start-up entrepreneurs, corporate entrepreneurs, product innovators, process innovators—are at least at least 20% more likely to get new ideas for products or businesses from observations (Dyer et al., 2011). Innovators commonly observe people engaged in experiencing a product or service, much in the

way an anthropologist observes various cultures and human engagement. When partaking in observation, innovators are likely to observe people experiencing a product or service, while watching for surprises in the process, and observing in new environments likely to yield a different perspective.

When paying close attention to potential surprises, innovators are able to identify when customers invent workarounds to account for ways a product or service may not meet their needs. Insights such as these yield ideas for innovations. Moreover, innovators change the external environment and observe to inspire new thinking—whether it is by traveling to a new country, trying out a different restaurant, or observing a culture or group with which the innovator was previously unfamiliar (Dyer et al., 2011).

The founder of the application OpenTable, Chuck Templeton, developed his company to allow users to book reservations online quickly and easily by viewing what restaurants have open tables available for a particular number of patrons at any given time. Templeton created the concept after observing the restaurant scene with his wife in Chicago. Through observation, he identified a way to make the job of selecting a place easier and more efficient for the restaurant goer, and to also improve the way in which restaurants market open tables to increase patronage. The more the innovation is practiced, the stronger the observation skills become allowing the innovator to decipher nonverbal cues and other indirect communication methods that present valuable insight into the decision-making process and behaviors of customers (Dyer et al., 2011).

**Vuja de.** While *déjà vu* explains the experience of feeling as if an experience is somehow familiar or has happened in the past, the researchers describe an innovator's tendency towards experiencing *vuja de* which is the sensation that a person is witnessing or involved in something for the first time that—in actuality—the person has experienced many times before (Dyer et al.,

2011). From these vujá de experiences, innovators derive new solutions to existing problems or common occurrences.

**Networking.** Innovators frequently engage in networking or social activities, but they do so in ways different than non-innovators (Dyer et al., 2011). In fact, innovators demonstrate nearly 80% proficiency in networking skills while non-innovators score under 50%. Oftentimes, people network to develop new connections to gain funding, business, promotions or other resources to advance a professional agenda. Innovators network to learn from others and to exchange ideas in addition to gaining resources.

**Improving networking ability.** While traditional executives are more likely to seek out expert opinions when evaluating product or business concepts, innovators are more inclined to network with and solicit opinions from people who come from different socioeconomic levels and cultures (Dyer et al., 2011). This practice holds appeal for innovators because they seek to transfer the unique experiences of those with whom they communicate with and apply this understanding towards new ideas. University of Chicago sociologist Ronald Burt (2004) explains that people who transcend different social structures are more likely to come up with “innovative ways of thinking” (p. 349). These individuals find themselves at an intersection of conflicting and divergent perspectives that often lead to new ways of thinking.

The other benefit innovators derive from networking with diverse groups is that when meeting new people it is often considered more socially acceptable to ask basic questions about how things are, or the way in which various components work. These are the often the same basic questioning behaviors innovators already tend to deploy that yield new ideas. As a result, one innovative behavior (networking) serves to fuel another innovative behavior (questioning) (Dyer et al., 2011).

Innovators engage in idea networking with others who enjoy sharing ideas back and forth. While it can be difficult for founders and other executives to freely exchange ideas due to intellectual property considerations and other privacy concerns, innovators are inclined to develop informal groups with whom the innovator can freely propose ideas and gather feedback. Michael Dell describes how Dell computers developed this culture of idea networking among the senior leadership team at Dell to encourage free flowing communication that will lead to innovation (Dyer et al., 2011).

**Experimenting.** Innovators often experiment to assess the viability of their ideas and find answers to their what if questions, saving time, money and other resources by often first engaging in observing, networking and questioning before experimenting. Amazon founder Jeff Bezos experimented with various products and distribution channels before solidifying the Amazon model. Today, the company encourages employees to experiment with new product and process innovations by providing an experimentation budget to departments. Of the four types of innovators—start-up entrepreneurs, corporate entrepreneurs, product innovators, and process innovators—product innovators and start-up entrepreneurs have more developed and inherent experimentation skills (Dyer et al., 2011).

**Three types of experimentation used to improve ability.** Innovators partake in three types of experimentation. First, innovators explore new experiences. While executives often focus on experiences that directly impact a desired outcome, innovators focus more on intangible outcomes—such as learning—when embarking on an experience. Steve Jobs took a calligraphy class with no clear goal in mind and the experience lead to the Macintosh typography. People who live in a foreign country for at least three months are 35% more apt to innovate because

these individuals gain a breadth of experience from which to associate new ideas, and those who work in more than one industry are even more likely to innovate (Dyer et al., 2011).

Next, innovators experiment by reverse engineering and disrupting products, processes and ideas. Before founding Dell, Michael Dell took apart computers to learn how they worked and would alter and enhance different features. This practice became the foundation of Dell computers (Dyer et al., 2011). Through the process of taking things apart, innovators learn and become inspired when considering how to improve upon the existing state of the product, process, service or business.

Lastly, innovators use pilots and prototypes to test innovations (Dyer et al., 2011). When developing the concept behind PayPal, founder Max Levchin attempted several iterations of the service and was ineffective with some of his variations. Rather than allow the failure of the pilots to become a source of discouragement, Levchin adjusted the model and ultimately developed a product that was met with great success.

Similarly, Rent the Runway founders Jennifer Fleiss and Jennifer Hyman created the concept of allowing users to rent expensive designer dresses through incremental pilots and test projects that revealed valuable insight into their target market. First, Fleiss and Hyman purchased designer dresses and allowed Harvard undergrad students to try them on and rent them. The founders were pleased to discover that renters returned the dresses in good condition, so they modified the experiment and rented dresses to Yale students, but this time the students did not have an opportunity to try the dresses on before renting. The Yale experiment proved to be a success and this iteration became the foundation of the present business model (Dyer et al., 2011).

**Innovator's DNA behaviors and MBTI.** The five innovator's DNA behaviors summarized in this literature review closely align with the MBTI functions in several areas. For example, the intuitive function of MBTI is similar to the innovator's DNA's association cognitive ability; and this means that those individuals who score as strong MBTI intuitives could potentially inherently possess the ability to associate. Likewise, the questioning innovator's DNA behavior includes similarities with the perceiving MBTI function; the observing innovator's DNA behavior includes similarities with the MBTI introversion; the networking Innovator's DNA behavior includes similarities with the MBTI extraversion and intuitive function (due to the learning motivation associated with innovator networking), and the experimenting innovator's DNA behavior includes similarities with the MBTI perceiving function. Based on these alignments, the ENXP personality type embodies more of these correlations than any other MBTI type.

### **Type Theory Overview**

The primary purpose of type theory is to help individuals understand themselves and others. Type theory maintains that increasing self-examination and understanding can actually impact which behaviors are emphasized over others. For example, type theory also encourages the betterment of traits that might not be serving an individual well, and the highlighting of attributes that benefit self and the interpersonal relationships. What may be considered a more advanced application of type theory is then to apply the knowledge of traits towards valuing others of different types (Varvel et al., 2004).

### **Myers Briggs Type Indicator Overview**

**MBTI introduction.** The MBTI was created in 1942 by Carl Jung, and was produced to identify individual psychological type (Isaksen et al., 2003). MBTI gained global recognition as

a personality assessment that evaluates an individual's information gathering, decision-making practices, orientation to the world, and interactions with others (Daisley, 2011). Designed with the goal of assisting individuals in the identification of strengths and an increased awareness of weaknesses, the MBTI is used worldwide by academicians and business leaders (Horton et al., 2005).

**MBTI preferences.** According to MBTI theory, every person has a preference for each of the four MBTI dichotomies. While an individual is able to function using non-preferred functions, operating within the individual's MBTI preferences will increase overall comfort and energy (Passmore et al., 2010). When subjected to high-stress circumstances most people will become acutely drawn towards their preferred functions because the preferred function is more familiar and requires no effort, whereas operating in non-preferred functions typically requires concerted effort. The following characterizations are approximations or tendencies based on theory.

**Introversion and extraversion.** The first of the four dichotomies is the MBTI preference for introversion or extraversion. Introverts focus energy inward towards thoughts, personal experiences, and ideas; and when communicating, introverts typically consider their thoughts before speaking. Extraverts, on the other hand, gather energy from the environment and direct energy outwards to people and the outer world which serve to invigorate and motivate the extravert. In general, extroversion is associated with more external action and interpersonal interaction (Isaksen et al., 2003).

**Sensing and intuition.** Sensing and intuiting are the two preferences for perception that make up the second dichotomy, where perception is defined as, "All the ways of becoming aware of things, people, events, or ideas and included the gathering of information, seeking of



sensation and inspiration, as well as the selection of various stimuli” (Isaksen et al., 2003, p. 345). Sensors use the five senses to experience an immediate, concrete reality. Intuitives are future-focused and perceive and process information in terms of possibilities, connections and patterns. Intuitives may struggle to describe how a particular perception was developed because instinctively the intuitive connects seemingly unrelated patterns and thoughts to develop and formulate a thought.

**Thinking and feeling.** The third MBTI dichotomy is thinking or feeling and both thinking and feeling represent ways of making decisions or coming to a conclusion. After using the perception preference for intuition or sensing, an individual uses either thinking or feeling to choose a response to the stimuli (Myers et al., 1998). Thinkers will use logic and reasoning to make a decision that may be characterized as objective, while feelers use personal and group ideals to make decisions that may be characterized as subjective. Feelers consider the thoughts and feelings of others as well as group values when making decisions, while thinkers practice decision-making that is less personal and is more focused on what the thinker perceives as just, fair, and logical (Isaksen et al., 2003).

**Judging and perceiving.** The final MBTI dichotomy of judging or perception was added after Jung’s initial theory by Myers and Briggs. This preference represents the way in which individuals orient themselves to the world and achieve closure. Perceivers present as inquisitive, unplanned, and flexible as perceivers prefer to continue to gather information until a decision is required and will maintain the observer role until that point. On the other hand, those who prefer judgment seek closure quickly, are decisive, and are often seen by others as more organized (Isaksen et al., 2003).

**MBTI reliability.** The MBTI's high level of reliability is demonstrated by how consistently questions regarding specific preferences are answered, as well as through the test-retest reliability which demonstrates the stability of responses over time (Daisley, 2011). As Moutafi, Furnham, and Crump (2007) explain, "Cronbach's alpha reliability coefficients reported in the manual range from 0.76 to 0.83, and construct validity has been demonstrated by correlations of the MBTI scales with scales of the California Psychological Inventory and the Minnesota Multiphasic Personality Inventory" (p. 275). In addition, the MBTI has been successfully used and validated cross-culturally (Kirby & Barger, 1999).

Even still, the MBTI has garnered criticism from researchers for oversimplifying personality and categorizing people into one of 16 narrow types. Critics also point out that because each function represents a dichotomy, it is only to be expected that a binomial distribution would exist for each trait. Nevertheless, the counter argument is that individual preferences, over time, are consistently shown to be close to exact matches, attesting again to the validity. Myers, Briggs, and Jung posited that every person will demonstrate a preference, however strong, for each dichotomy of the MBTI (Daisley, 2011).

**MBTI validity.** Researchers measure the validity of a person's MBTI type by cross-referencing the recorded type, the self-assessment as well as the individual's observable behavior. The MBTI is consistently found to have a goodness-of-fit factor above the .9 threshold and nearly factorially pure scales (Daisley, 2011). The MBTI includes 126 items with two scores emerging from each of the four scales. The function preference strength is determined by subtracting the smaller score from the larger score; the larger the difference, the stronger the score and identification with the preference.

**MBTI and societal and organizational patterns.** When considering the general population of the United States, it is estimated that extraverts outnumber introverts, with extraverts comprising nearly 70% of the population (Lawrence, 1993). Intuitives make up only approximately 30% of the population leaving sensors as the more prevalent function (Lawrence, 1993). While judges (55%) and perceivers (45%) are closely divided, the majority of males (66%) are thinkers and most females (66%) are feelers (Lawrence, 1993). In fact, the difference between the thinking and feeling functions has been described as similar to the male versus the female perspective or voice (Rideout & Richardson, 1989).

In contrast to the general United States population, the personality types of ISTJ, ESTJ, INTJ and ENTJ are overrepresented in the workplace (Sample, 2004, p. 68). In corporate America, the most common type of staff-level employee is the ISTJ type. Most managers are of the ESTJ type, while most senior executives are ENTJs (Filbeck & Smith, 1996).

Reynierse (1993) set-out to examine the relationship between personality type based and organizational level using a sample of 1952 private sector employees who represent senior executives, mid-level managers, and lower-level managers. The frequency of intuitives increased with organizational level with the top levels of leadership almost entirely comprised of intuitives (Reynierse, 1993), who are more likely than sensors to act as agents of change within the organization for which they work (Evered, 1977). Trainer and peer evaluations of organizational development competencies were evaluated against MBTI preferences and the intuition function was the only MBTI preference associated with predictive organizational competency (Bushe & Gibbs, 1990).

**Learning and innovation.** Dyer et al. (2011) posit that an estimated two thirds of an individual's innovative behavior stems from nurture versus nature and the way in which the

individuals foster innovation is through learning—or a practice they refer to as associating. By focusing on the relationship between innovation and learning insight can be gained into the thought process that supports learning, which can lead to innovation and the adoption of innovative behaviors. The process described by the researchers is that basic awareness of an innovative behavior such as questioning or experimenting starts the learning process, the skill is then practiced, and then the behaviors manifest with less effort. For this reason, this literature review will next explore the role of MBTI as it relates to learning.

**MBTI as a learning style assessment.** The MBTI is commonly used in counseling and corporate settings (Isaksen et al., 2003), and is one of the most well-known and frequently used learning style assessments worldwide (Waters, 2012). Although the MBTI is more often sold as a personality test and not as a learning style assessment, it is recognized by learning and development professionals as a strong learning style evaluation tool (Waters, 2012). Waters (2012) used the social media site LinkedIn to conduct a survey of 169 human resources development professionals from 20 countries and discovered that MBTI is the top recognized and most preferred tool over other learning style instruments such as Kolb's Learning Style Inventory (LSI) and Honey and Mumford's Learning Style Questionnaire (LSQ).

**MBTI learning styles and cognitive processing.** Rogers (2011) posits that learning styles make such an impact on the learning experience that participants often become virtually unable to learn in environments not conducive to the individual's learning style preference. The MBTI sensing, intuition, feeling and thinking functions comprise four separate combinations of preferences that together become distinctive learning styles. To explain, one frequently used combination of MBTI preferences that form learning styles includes sensor thinkers (STs), intuitive thinkers (NTs), sensor feelers (SF's), and intuitive feelers (NFs). It is thought that each

MBTI preference combination yields information that is deemed to be valuable in ascertaining learning preferences. For example, in general sensing types observe details and live in the present whereas intuitive types focus more on the abstract and consider future possibilities, and it is believed that such information may be used to predict how individuals learn based upon MBTI preferences (Moutafi et al., 2007).

**Sensing thinking learners.** ST learners tend to gravitate towards highly structured learning environments that place a strong emphasis on practical, concrete facts and figures that are easily perceived through the senses. STs typically strongly admire hard work and for this reason, ST's as learners seek achievement and recognition. Moreover, ST learners seek closure in black and white and true and false dichotomies. STs are more likely to positively respond to learning that strongly emphasizes repetition, projects, tasks, and planned instruction (Rogers, 2011).

**Intuitive thinking learners.** NT learners tend to be autonomous in nature and this predisposition affects the NTs learning style preferences. It is common for NTs to spend time alone reading and studying independently; for this reason NTs appreciate flexible timelines when completing work. NTs are analysts who process information through patterns and theories, and value logic and clarity of thought in the decision-making process and in a learning environment (Rogers, 2011).

**Sensing feeling learners.** SF learners prefer relationship-based learning interactions that provide an opportunity to acquire approval from others. The SF learner places a strong emphasis on teamwork and collaboration. To ensure an SF learner is highly engaged in the learning environment, a positive group dynamic is critical. In addition, SF learners appreciate learning through role-plays and other team activities as well as a strong emphasis on repetition. Moreover,

valuing approval, instructor attention and commendation for work done well are also components appreciated by SF learners (Rogers, 2011).

**Intuitive feeling learners.** NF learners thrive in creative, innovative environments that present an opportunity for global thinking through an unstructured approach. Opportunities for creative problem-solving in a group environment are likely to be well-received by NFs who engage in learning with great enthusiasm. A highly-structured learning environment is typically not appropriate for NFs who air on the side of non-conformity and tend to prefer learning apart from timelines and deadlines which are often perceived by NFs to be stifling to their sense of personal expression, and in turn, to the learning process itself (Rogers, 2011).

When the MBTI preference for intuition or sensing is paired with the preference for perceiving or judging, additional learning styles may be identified. For example, when contrasting learners who are intuitive-perceivers (NP) with learners who are sensing-judging (SJ), the SJ learners will be more appreciative of a structured classroom environment and traditional lecture format that supports a hierarchy and the authority of the instructor. The NP students prefer the opposite setting where interaction is encouraged and minimal structure allows for open inquiry and exploration of the course content (Filbeck & Smith, 1996).

**MBTI and learning modality experiences.** Differences among MBTI functions and cognitive processing exist and are related to the learning environment. This impacts innovation as innovative thinking is strongly connected with learning and the connection of concepts (Dyer et al., 2011). Bolliger and Erichsen (2013) found that MBTI preferences can impact a learner's preferred classroom modality, whether it be online, face-to-face, or a blended learning environment. In a study involving 72 learners from two United States research universities Bolliger and Erichsen examined student satisfaction based on MBTI. The research revealed that

in the online environment, independent project work and the use of chat tools are more appealing to sensors than to intuitive learners. In addition, extraverts tend to perceive a loss of interaction when enrolled in a fully online course, while introverts show a preference for engaging in online learning environments. The intuition and sensing functions also impact learning preferences. Intuitives report that they are more likely to attend an online program over a face-to-face program, while extraversion and perceiving are two functions associated with a preference for a face-to-face modality.

Introverts prefer to reflect on reading and respond at their leisure. Introverted feelers value responding to peers and reflecting on the posts of their peers, where introverted thinkers prioritize information gathering and synthesis. Introverts prefer anonymous online experiences that allow the private expression of opinions through asynchronous forums. The asynchronous format permits introverts to build connections with colleagues in a cohort in a manner comfortable to the introvert. Yet once a cohort group is perceived to have too many participants, an introvert may withdraw and become less engaged. Introverts also reported in-person interaction and the opportunity to see indirect communication and the body language of peers to be unimportant (Russell, 2002). Introverted sensors appreciated the use of technology and viewed the online experience as an opportunity to use and improve computer skills.

When enrolled in online courses, extraverts are more likely to participate in discussion threads and interact with peers online (Bolliger & Erichsen, 2013). ENFJ and ESFJ MBTI types are highly aware of and attentive to the posts of online colleagues, and exhibit a high degree of interaction with peers and with the course facilitator. However, these learners still prefer the face-to-face environment. Technology issues presented challenges to extraverted feelers when these learners felt as if the computer errors prevented timely responses to peers (Russell, 2002).

In general, homogeneity of MBTI type appears to yield a more positive online experience (Bolliger & Erichsen, 2013).

The blended learning modality that reflects a hybrid of online and classroom learning is valued differently based on MBTI preferences. To illustrate, hybrid courses are less likely to be recommended by extraverted learners than introverts. However, introverts were less satisfied overall with course content in this modality. Those learners with judging preferences tend to be more critical of assignments, course design, format, and the lack of interaction in hybrid courses. Intuitives in this hybrid environment tend to request more interaction than sensors, and learners with a feeling preference observed a need for more course flexibility (Bolliger & Erichsen, 2013).

The MBTI type of an adult learner yields valuable insight into the underlying motivations for pursuing learning. For example, sensors tend to continue education primarily for career advancement (Schroeder, 1993). Sensors are motivated by learning environments that connect easily to the sensor's work and personal situations. More specifically, sensors with a judging preference will be interested in the connection between new learning and past experiences, while perceiving sensors will focus more on the connection between new learning and the current environment (Russell, 2002). Research shows that extraverted sensors struggle more than other MBTI types when it comes to general education curriculum in higher education. Sensors prefer concrete learning and are challenged by general education courses because the practical function and immediate application is not always evident. Interestingly, when sensor learners advance into a specific field of study, the sensor's academic performance begins to level off with the academic performance of the intuitive population (Schroeder, 1993).



The intuitive learner tends to be motivated by a fundamental desire to learn and enjoys the act of learning, regardless of whether or not the learning is immediately applicable (Schroeder, 1993). Intuitive judgers enjoy learning that allows for the exploration of future potential and new ideas and concepts. The intuitive perceiver will be motivated by content that the learner sees as a potential vehicle for future reform or improvements. Feelers are inspired by learning that demonstrates how the content can be used towards the greater good to help others benefit (Russell, 2002).

### **ENTP and ENFP Overview**

**The ENTP personality type.** The ENTP is often referred to as the *inventor* and is known for being social, open, communicative and perceptive (Myers, 1998). ENTPs usually appreciate spirited debates and appreciate exploring diverse perspectives about a variety of issues, known to argue both sides of a point for enjoyment and learning. Many describe the ENTP as smart, quick-witted and enthusiastic.

As extraverts, ENTPs are energized by the external world and interactions with people (Heiss, 2011). Intuitive ENTPs are progressive and enjoy pondering and creating the future. They tend to be abstract learners, taking an interest in theories and principles rather than concrete or detailed facts. As thinkers, ENTPs—unlike their ENFPs cousins—are more inclined to make decisions based on their perception of logic rather than societal expectations or values. Lastly, as a perceiver, the ENTP enjoys spontaneity and multiple options, rather than making definitive plans and decisions. This tendency to delay decision-making is one reason why ENTPs are known to be inventive and creative—they are able to wait to gather considerable information before formulating concrete ideas and keep open-minds, perpetually expanding their perspective.

**Extraverted intuition for the ENTP.** The combination of functions for each MBTI type forms a function hierarchy that impacts how each of the functions manifest externally for the 16 types (Heiss, 2011). For example, intuition is extraverted (described as “Ne”) or outwardly expressed rather than internally processed for the ENTP and this Ne allows the ENTP to uncover underlying meaning easily and make strong connections between seemingly unrelated topics. Ne also promotes a world of possibilities and a passionate desire to use these possibilities to inspire change and innovation, making the ENTP a natural entrepreneur. The enthusiasm, vision, and social ability that is natural for the ENTP makes them strong leaders.

**Introverted thinking for the ENTP.** The ENTP has introverted thinking (Ti) that inspires the ENTP to take an interest in diverse bodies of information and experiences, then observe differences in concepts and organize these distinctions into mental categories and patterns through internal or introverted processing (Heiss, 2011). Essentially, the Ne is constantly acquiring new material and the Ti works to make meaning out of the information gathered, identify inconsistencies, and provide a structure to the data. The Ne is more dominant and will work faster than the Ti. This means that the ENTP, a perceiver, will gather information before formulating a decision or concrete perspective, unlike the judgers who are more apt to gather information and move to the decision-making process quickly.

**Extraverted feeling for the ENTP.** The ENTPs extraverted feeling (Fe) prompts the ENTP to value the perspectives of others and to seek to make a global impact in life (Heiss, 2011). Mature ENTPs exhibit sensitivity to the feelings of others. Underdeveloped ENTPs can come across as callous and insensitive.

**Introverted sensing for the ENTP.** Introverted sensing (Si) allows the ENTP to contrast data from the past with current information to make sense of the information and draw out

emotional associations with the memories (Heiss, 2011). This history provides the ENTP with context for their ideas, feelings, and interactions. Without properly developed Si, the ENTP can appear scattered and disconnected as the Si grounds the ENTP.

**The ENFP personality type.** The ENFP is often referred to as the *champion* and is known for being energized, emotional, curious risk-takers (Myers, 1998). ENFPs value work environments that allow them to work creatively and they enjoy the constant pursuit of new ideas. Like their ENTP cousins, ENFPs value learning and will explore diverse perspectives about a variety of issues. Many describe the ENFP as emotionally-attuned, creative, and adventurous.

As extraverts, ENFPs are energized by the external world and interactions with people and are known to have diverse networks of social and professional contacts (Heiss, 2011). Intuitive ENFPs are not concerned with present reality and would prefer to spend time focusing on creating the future. As feelers, ENFPs—unlike their ENTP cousins—are more inclined to make decisions based on personal preferences, values, and ideals rather than pure logic. As a perceiver, the ENFP avoids definitive plan and decisions and prefers to keep options open to gather considerable information before making a decision.

**Extraverted intuition for the ENFP.** ENFPs use Ne to synthesize diverse emotional and intellectual observations; they draw out patterns with ease (Heiss, 2011). Like ENTPs, the ENFPs Ne allows them to see possibilities in most situations and as a result, they are natural entrepreneurs. ENFPs use their Ne-inspired natural charisma to motivate others towards their vision of change.

**Introverted feeling for the ENFP.** ENFPs use introverted feeling (Fi) to sense authenticity in communication and actions (Heiss, 2011). ENFPs maintain strong values and Fi

allows them to contrast their actions against the values they hold to ensure alignment. As leaders, this ability can help them build trust among team members.

**Extraverted thinking for the ENFP.** ENFPs use extraverted thinking (Te) to apply logic to their discoveries (Heiss, 2011). As ENFPs process ideas and events, they often use their Te to think aloud, making meaning externally as extraverts. While ENFPs operate in the feeling function, Te allows them to present ideas in a structured, logical manner.

**Introverted sensing for the ENFP.** The ENFP uses introverted sensing (Si) to compare and contrast information from the past with new data from the present. As the ENFP reviews historical experiences and ideas, oftentimes, the sensing brings to mind feelings and sentiments associated with the past, making ENFPs particularly nostalgic. Si uses this synthesized information for predictive purposes (Heiss, 2011).

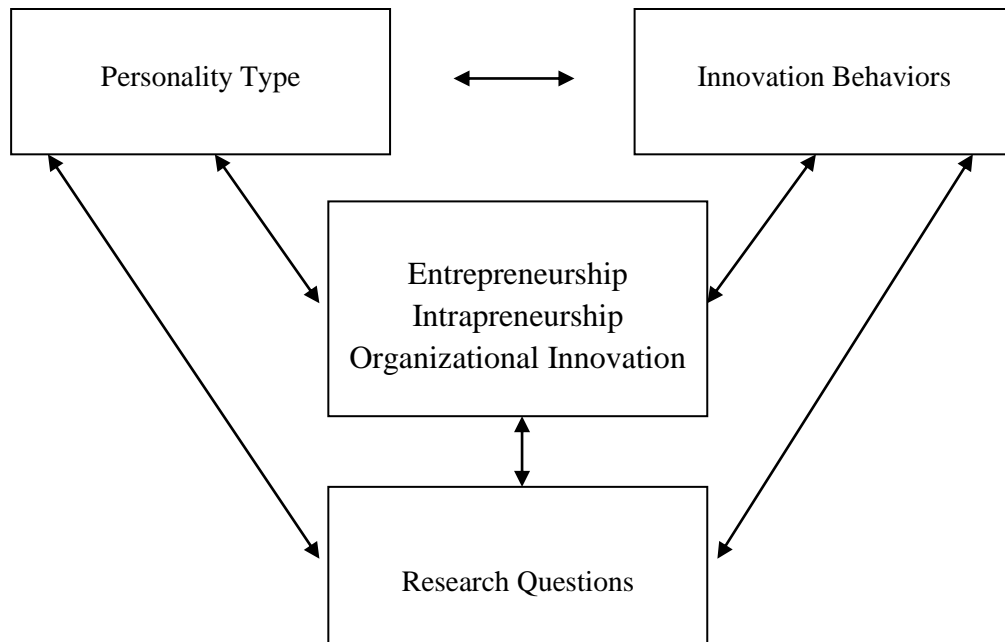
**The innovation experiences of other personality types.** While the focus of this study was on the innovation experiences of ENXPs, ENXPs are not the only types associated with innovation. INTJs, ISTJs, ENTJs and ESTJs are also known as successful entrepreneurs (Beaton, 2016). These types are achievement oriented and seek out personal growth opportunities and new skills. A desire for ever-increasing knowledge and skills is used to create business models and improve existing business concepts. The INTJ in particular is associated with launching process, product and market innovations and even more so, is known for the ability to implement these innovations (“Personality Types,” 2010). INTJs may benefit from being paired with an extrovert. This person probably needs to be an intuitive to communicate the INTJs innovative ideas. The EN may be slightly more creative and likely better at promoting and socializing ideas, but the INTJ will be participative in innovation the process and will be more adept at putting the ideas into action.

## Summary

As outlined in this literature review, organizational innovation is becoming increasingly important in a global marketplace. Most attempts to foster innovation in a company culture have centered on creating an externally innovative culture through environmental changes such as office space and organizational structure. Human resource professionals consider innovative abilities when hiring key positions, but are often unsure of how to identify innovative individuals among the workforce.

Thus far, the researcher did not find a significant contribution to the research body focused on exploring the relationship between innovation, personality, and behavior. Through this research, traits associated with innovators have been identified. As explained, innovators tend to be risk-takers, with drive and ambition who engage in behaviors linked to innovation: associating, questioning, observing, networking and experimenting. Many of these behaviors are correlated with the MBTI functions of those with ENXP typology.

Even still, there has been little research focused on the experience of innovation among ENXPs. It is clear that this is a content area that calls for further exploration to explore the ways in which ENXPs foster innovation and inherently exhibit innovative behaviors. The topics reviewed in Chapter Two include personality type, organizational innovation, innovation behaviors as well as entrepreneurship and intrapreneurship. These topics form the basis of the theoretical framework used in this study and included in the graphical depiction of Figure 1.



*Figure 1.* Theoretical framework illustration.

If further research determines that there are clear themes emerging related to personality (as measured by the MBTI) and innovative behaviors (explored using the five Innovator's DNA behaviors summarized in this study), it would mean that millions of people who have already taken MBTI will have an opportunity to leverage these results to explore their innovative proclivities. Moreover, human resources professionals would be able to use these results in partnership with organizational leaders to strategically position employees in jobs and roles that maximize innovative tendencies.

### **Chapter 3: Methodology and Procedures**

Chapter 3 includes an in-depth exploration of this study's research methodology. The guidelines and specific framework that guide the design of the study are included. In addition, this chapter outlines the definition of the analysis unit, the process for selecting analysis units, the data collection methods, the reliability and validity of the instruments and the data collection procedure. Last, this chapter outlines the data analysis process and the Institutional Review Board (IRB) approval process.

#### **Restatement of Research Question**

This study explores the experience of innovation among ENXP entrepreneurs and leaders in innovation focused roles. The primary research questions in this study are:

- Research Question 1: What is the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs?
- Research Question 2: How do ENXPs experience observing, experimenting, networking, questioning and associating when innovating?
- Research Question 3: How have ENXP entrepreneurs and intrapreneurs applied innovation practices to their business?

#### **Description of the Research Methodology**

The research methodology is a theoretical underpinning for designing research. The research method was selected based upon the study purpose, the issue or problem to be solved, the data to be used and the theoretical framework upon which the study was built.

**Overview of qualitative approach.** While quantitative organizational leadership research emphasizes numerical data sets and a structured approach to enable descriptions of/and/or numerical inferences about a population, often using surveys and similar tools,

qualitative research is more exploratory. Qualitative research delves into underlying themes and patterns through unstructured and semi-structured data collection methods. Researchers using qualitative methods will typically conduct interviews, focus groups or observation sessions with smaller sample sizes (Richards & Morse, 2012). Researchers deploying qualitative research methods place themselves in settings in which the subjects are explored naturally and the opportunity exists to explore and interpret meaning of phenomenon.

The purpose of this study was to explore the lived experience of organizational innovation among extroverted intuitive perceiving (ENXPs) entrepreneurs and leaders in innovation focused roles (intrapreneurs). The study involved identifying lessons and experiences with innovation which these entrepreneurs and intrapreneurs have garnered from their work. For this reason, a qualitative approach was selected.

**Overview of phenomenological approach.** A phenomenological research approach was used by researchers to discover and assess the meaning associated with the life experiences of the subjects. Phenomenology looks at a shared phenomenon amongst subjects through evaluating their lived experiences. The subjects were evaluated based on individual experiences. Methods were deployed to bring a degree of objectivity to concepts and experiences that are often considered purely subjective, such as feelings, perceptions, insights and judgements (Richards & Morse, 2012).

To address the research question, the study used this approach to explore how a sample of ENXP leaders in innovation-focused roles experiences organizational innovation. The phenomenological approach was appropriate for this qualitative study because it allows the researcher to engage the ENXP population of focus and to derive meaning from the experiences



the participants share (Richards & Morse, 2012). Through the use of this typology, an in-depth exploration of the innovation practices and experiences of the EN population was pursued.

For this phenomenological study, the purpose was to study the innovation experience in an entrepreneurial or intrapreneurial perspective using the phenomenological approach. As such, the researcher gathered descriptive data from the participants regarding the lived innovation experiences in the context of their business ventures. Finally, the researcher explored and evaluated the subjects' innovation experiences to discern common themes among the descriptions.

When using a phenomenological approach, it was important to take preventative measures to minimize the influence of predetermined assumptions, theories, hypotheses and biases on the outcome of the study (Richards & Morse, 2012). The practice of bracketing was used to mitigate the risk of aforementioned occurrences. Bracketing involves documentation of the part of the researcher to outline prior experiences she's had related to the research topic.

To conduct research for this study, the researcher began by bracketing her experiences regarding entrepreneurship (see Appendix A). This includes documentation regarding how her upbringing, previous employment and current role influenced her views on entrepreneurship and intrapreneurship, as well as her vested interest in the study. As a result of this preliminary work, biases were examined and excluded (Richards & Morse, 2012).

The researcher and participants' consciousness impacts perceived realities and therefore, the process of applying a phenomenological approach (Richards & Morse, 2012). The phenomenological researcher was not concerned with making an abstract sense of reality. Rather, the researcher used reflection that Richards and Morse (2012) explain, "takes place within the

four existentialisms: temporality (lived time), spatiality (lived space), corporeality (lived body), and relationality or communality (lived human relation)” (p. 199).

Verbal and written communication is a vehicle by which participants transfer existential information to the researcher (Richards & Morse, 2012). As such, it was important that the researcher carefully consider and analyze the recorded responses of the interviewees. Interviews were minimally processed or analyzed during the interview as the majority of the analysis will happen during the post-interview phase where the researcher evaluates interview structure and patterns. To ensure meaning is properly translated, it was critical that the researcher ask clarifying questions throughout the interview process and following the interview to ensure that meaning is transferred.

### **Process for Selecting Data Sources**

In this study the researcher collected cross-sectional data, and the specific variable identified for study is the participants’ experience of each of the five personal innovation behaviors as defined by Dyer et al. (2011): associating, questioning, experimenting, observing, and networking. For the purpose of this study, the variable of innovation is defined as product, process, market, and management (or policy) innovation (Avermaete et al., 2003). To further explicate, product innovation pertains to ideas, products and services; process innovation relates to operations and support services; market innovations apply to other markets and managerial innovation refers to policy-related innovation. Innovations of each type are to lead to increased profits or cost savings.

In qualitative research, smaller sample sizes are not restricted or considered to detract from the research efficacy—in fact, it is possible to conduct a phenomenological study with only one participant, although a more common sample size is approximately 10 participants (Richards

& Morse, 2012). In order to ensure that the participants selected had applicable experiences related to the phenomenon that was evaluated, the researcher used criterion sampling, which helped make sure the personal and relevant experiences were included in the study.

In this study, the individuals selected by the researcher met the following criteria:

- Ability to confirm a personal MBTI type that is either ENFP or ENTP;
- Had ever run an intrapreneurial department for at least 3 years with at least one direct report; or had ever owned a business for at least 3 years with at least one direct report; and
- Had at least 3 years of experience relying on innovation as a primary sustaining factor for their business or department

The criteria of this study formed the basis by which the participants are selected. To find qualified participants, the researcher used a recruitment script (see Appendix B) to approach personal and professional contacts within her network. The researcher sent invitations to each of the 12 individuals in an email to establish a date and time for a September or October 2016 interview. Twelve people accepted the invitation to participate in the study and were sent an informed consent form (without a required signature) to maintain confidentiality (see Appendix B). When the target sample size was fulfilled on a first come first served basis, the researcher finished the data selection process.

### **Definition of Analysis Unit**

The analysis units in this study were ENXP entrepreneur and intrapreneur individuals who had experiences innovating in their professional lives. All of the analysis units were entrepreneurs or department leaders representing different industries within the U.S. The

researcher evaluated the analysis units' experiences, perspective and insight regarding innovation.

### **Definition of Data Gathering Instruments**

The researcher used prepared questions, but allowed the conversation to emerge naturally in order to capture the breadth and depth of the interviewees' experiences. The researcher developed several open-ended interview questions and provided definitions of terms to gather sufficient data from the participants. The participants were asked seven predetermined interview questions (see Appendix C) organized for each research question. The questions were as follows:

1. Research Question 1: What is the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs?
  - *Interview Question 1:* How does being an extravert impact how you experience innovation and prefer to innovate?
  - *Interview Question 2:* How does being an intuitive impact how you experience innovation and prefer to innovate?
  - *Interview Question 3:* How does your perceiving function impact how you experience innovation and prefer to innovate?
2. Research Question 2: How do ENXPs experience observing, experimenting, networking, questioning and associating when innovating?
  - *Interview Question 4:* How do the behaviors of observing, experimenting, networking, questioning and associating impact your innovation if at all?
  - *Interview Question 5:* Which behaviors do you tend to use most frequently when innovation emerges?

3. Research Question 3: How have ENXP entrepreneurs and intrapreneurs applied innovation practices to their business?

- *Interview Question 6:* Think about a time when you were leading innovation, what did that look like? How would you describe the project?
- *Interview Question 7:* What have your experiences been with applying product/process/market/managerial innovation to your business?

Once completed, the transcribed interviews were analyzed for themes and patterns. The researcher's personal observations were included and then contrasted with the interview data. To analyze the data, it was important to reflect, review and rewrite the content so that common threads emerge and are captured in the research (Richards & Morse, 2012).

### **Validity of Data Gathering Instruments**

Researchers measure the validity of a person's MBTI type by cross-referencing the recorded type, the self-assessment as well as the individual's observable behavior. The MBTI is consistently found to have a goodness-of-fit factor above the .9 threshold and nearly factorially pure scales (Daisley, 2011). The MBTI includes 126 items with two scores emerging from each of the four scales. The function preference strength is determined by subtracting the smaller score from the larger score; the larger the difference, the stronger the score and identification with the preference. To validate the interview questions, the researcher used a panel of experts to review the questions prior to interviews. Experts were chosen based on experience using MBTI to develop high-performing teams as well as experience working within entrepreneurial and intrapreneurial organizations (see Appendix D). The panel approved the interview questions without modifications.

## **Reliability of Data Gathering Instruments**

The MBTI's high level of reliability is demonstrated by how consistently questions regarding specific preferences are answered, as well as through the test-retest reliability which demonstrates the stability of responses over time (Daisley, 2011). As Moutafi et al. (2007) explain, "Cronbach's alpha reliability coefficients reported in the manual range from 0.76 to 0.83, and construct validity has been demonstrated by correlations of the MBTI scales with scales of the California Psychological Inventory and the Minnesota Multiphasic Personality Inventory" (p. 275). In addition, the MBTI has been successfully used and validated cross-culturally (Kirby & Barger, 1999).

Even still, the MBTI has garnered criticism from researchers for oversimplifying personality and categorizing people into one of 16 narrow types (Daisley, 2011). Critics also point out that because each function represents a dichotomy, it is only to be expected that a binomial distribution would exist for each trait (Daisley, 2011). Nevertheless, the counter argument is that individual preferences, over time, are consistently shown to be close to exact matches, attesting again to the validity (Daisley, 2011). Myers, Briggs, and Jung posited that every person will demonstrate a preference, however strong, for each dichotomy of the MBTI (Daisley, 2011).

## **Data-Gathering Procedures**

Chapter 2 began the data collection process through the inclusion of a review of contemporary literature related to personality, learning, innovation and entrepreneurship. The research and interview questions were based upon the information yielded through the literature review. Data regarding participant organizational innovation experiences and preferences was obtained through an oral self-report provided during face-to-face interviews. Participants were

identified through the LinkedIn and Facebook social media sites and through email correspondence through the LinkedIn site using “InMail” and Facebook “messenger”.

A sampling frame of innovation-focused leaders was generated from the researcher’s LinkedIn and Facebook social media pages. These sites allow members to filter by position titles, industry, employer, and position description key words. This non-probabilistic convenience sampling method was used to identify participants from the researcher’s LinkedIn and Facebook networks. In addition, using snowball sampling, recruited participants were asked to recommend others within their professional networks who meet the inclusion criteria for this study (Richards & Morse, 2012).

The data in this cross-sectional study was collected over the period of one to two months from 12 individuals (depending on the participants’ schedule) in innovation-focused roles, with six representatives from each of the ENXP personality types of interest (ENFP and ENTP), with an equal representation of both genders (i.e. 3 male ENFPs, 3 male ENTPs, 3 female ENFPs and 3 male ENFPs). The required sample size was 12 participants with six participants from each of the Myers-Briggs Types involved in the study: ENFP, and ENTP. The frequency of such individuals in entrepreneurship roles is presently unknown. It was considered likely that individuals in innovation based roles would be ENXPs because extraversion, intuition and perceiving have been associated with innovation and creativity and would therefore make innovation focused roles appealing for ENXPs (Houtz et al., 2003). When considering the general population of the United States, it is estimated that extraverts outnumber introverts, with extraverts comprising nearly 70% of the population (Lawrence, 1993). Intuition is associated with drawing connections and associations between seemingly unrelated events (Isaksen et al., 2003, p. 345). While intuitives only make up approximately 30% of the population (Lawrence,

1993), the researcher predicted that innovation focused positions attract those possessing the intuition function.

Potential participants were identified and verified through LinkedIn and Facebook beginning in August of 2016 and culminating in July of 2016. Once three qualified participants from each of the three MBTI types were selected (ENTP male and female and ENFP male and female) and verified through email, interview data collection began in August of 2016 and concluded in September of 2016. Data collection was completed weekdays in the evenings between the hours of 5:00pm and 8:00pm.

The rationale for the above design decisions included the desire to identify the appropriate participants early in the process to allow for expedient scheduling of interviews. The collection of data through transcribed interviews allowed for timely review of the content and the timeline permitted a realistic data collection period considering the availability of the leaders being interviewed. Additionally, the intended use of findings was to identify notable themes and synthesize data accordingly per the phenomenological approach.

The anticipated acceptance rate to recruitment requests was 67%. Thus, 18 potential participants were identified from a convenience sampling of the researcher's LinkedIn and Facebook networks with the target of 12 study participants. The projected bias regarding which demographics were less likely to participate included the participants with more senior-ranking positions who it was thought would be less likely to participate due to the demands of their positions. Non-response is addressed by additional quota sampling that replaced participants who withdrew until 12 individuals agree to participate in the study.

The specific variable identified for study includes the participants' experience of the innovation behaviors as seen in Table 1. The variable of organizational innovation is defined as



process, product, market, or managerial innovation (Avermaete et al., 2003). The two MBTI types were self-reported from previously administered MBTIs.

Table 1

*The Variable of Innovation Behavior Preferred by ENXPs*

Variable	Data Source	Respondents
Innovation Behavior Preferred by MBTI Extroverted Intuitive Perceivers	Informal Interview	ENTP Male Innovation Leader 1 ENTP Male Innovation Leader 2 ENTP Male Innovation Leader 3
Innovation Behavior Preferred by MBTI Extroverted Intuitive Perceivers	Informal Interview	ENTP Female Innovation Leader 1 ENTP Female Innovation Leader 2 ENTP Female Innovation Leader 3
Innovation Behavior Preferred by MBTI Extroverted Intuitive Perceivers	Informal Interview	ENFP Male Innovation Leader 1 ENFP Male Innovation Leader 2 ENFP Male Innovation Leader 3
Innovation Behavior Preferred by MBTI Extroverted Intuitive Perceivers	Informal Interview	ENFP Female Innovation Leader 1 ENFP Female Innovation Leader 2 ENFP Female Innovation Leader 3

Upon written confirmation of the willingness to participate and the verification that the participant meets the inclusion criteria, each participant was emailed an informed consent form before an interview is scheduled. In order to mitigate a breach of confidentiality the researcher did not obtain signed consent from the subjects. However, the researcher still gave participants a copy of the consent form to keep, most often through email. Interviews were scheduled in the later part of August 2016. Non-respondents received one follow-up email and call encouraging them to participate.

Interview data collection began in September of 2016 and concluded by October of 2016. Data collection occurs in person at a location that is selected by and convenient for the participants. The interviews occurred during the early evening because the participants were executives and that were likely to have full schedules that prevent them from meeting at a location that was too far from where they work during office hours. For this reason, it was likely

that the location selected by the participant would be a public venue such as a coffee shop or restaurant that would be a comfortable and convenient setting for the participant. If the participant preferred the interview to occur in their workplace, permission to access the site would be obtained from the individual who oversees facilities at the participant's organization, with those permissions filed in advance of the interview with the IRB.

Each week at least two to three interviews were conducted. The interviews occurred in-person, over the phone and via email. Most interviews were likely to take place in the greater Phoenix area, although the researcher did travel out of the state of Arizona to interview participants who met the qualifying criteria. The researcher remained in the United States for all interviews. Interviews began with a brief definition of organizational innovation as defined by Avermaete et al. (2003), followed by an invitation for participants to assign meaning to the term organizational innovation. Participants were then presented with questions regarding their specific organizational innovation contributions as well as the personal process the individuals experienced while initiating organizational innovation. Interviews were recorded (if permitted by the participant) and/or transcribed by the researcher so the participant did not need to return completed instruments to the researcher, unless the participant preferred to email responses. When and if data was to be collected via email, confidentiality was protected by removing email addresses from data. Audio recordings were destroyed after interviews were transcribed.

### **Data Analysis Process**

After the interviews, the researcher analyzed transcripts of the interviews. Abstraction results from reading and reflecting on the data, which is then clustered and broken down into separate parts. At that point, the data was organized by themes and patterns to make a synthesis and summary of the data. Giorgi's schema for analyzing phenomenological data was used on the

researcher's data to develop an essence. To describe, the researcher first collected and read verbal data, and then categorized data. Next, the researcher expressed the data's psychological elements and summarized the data for the scholarly community (Richards & Morse, 2012).

### **Data Display**

Phenomenological data is often perceived by readers to be multifaceted and rather nebulous (Richards & Morse, 2012). For this reason, the data display for this study was included in Chapter 4. In this chapter, charts and tables outline the data results to provide the reader with visual representations that aid in reader comprehension and researcher presentation and of existential content.

### **IRB Approval**

Pepperdine's Professional and Graduate Schools' IRB standards were maintained throughout this study, and IRB approval was granted on August 30<sup>th</sup>, 2016 (see Appendix E). Permissions from data collection sites were not necessary because the researcher used InMail and Messenger to recruit individuals who are already connected to the researcher on LinkedIn and Facebook. Participation was clearly explained as voluntary in the initial invitation to present. To ensure informed consent was addressed early on, participants were provided an electronic copy of the informed consent form and interview questions upon agreeing to participate in the study. In order to mitigate a breach of confidentiality the researcher did not obtain signed consent from the subjects. However, the researcher still gave participants a copy of the consent form to keep. Confidentiality was achieved through the use of pseudonyms and through reporting data on the aggregate. Cover sheets and other documents containing personal identifying data were removed or used with caution and limited access, however, anonymity is not claimed in this study. The informed consent letter indicated the researcher's request to record the interviews and

specified that in the event that participants decline to be recorded, the researcher will capture key interview points through note taking or accept email responses from the participants.

The risks of participation were considered minimal, but did include the potential for boredom or fatigue. The benefits of participation include personal professional validation of the participant as an innovator in his or her field. The social benefit emerging from the research included the potential for improved strategic positioning of employees for heightened organizational innovation. Efforts were made to disclose all aspects of the study prior to the start of the interview to eliminate deception. Remuneration was made by the researcher in cases where the participants were required to travel offsite; however, the researcher attempted to travel to the participant's city to interview the participants in a public location that did not require approval. No conflicts of interest were known to the researcher at this time, and any adverse events would have been promptly reported to the IRB.

### **Summary**

The specific variable identified for study in this qualitative phenomenological study was the ENXP entrepreneurial participants' experience of innovative behaviors. The variable of organizational innovation was defined as process, product, market, or managerial innovation (Avermaete et al., 2003). Data collection was oriented towards past recollections and present experiences. The inclusion criteria necessitated that participants: had run an intrapreneurial department for at least 3 years with at least one direct report or had ever owned a business for at least 3 years with at least one direct report and; and had at least 3 years of experience relying on innovation as a primary sustaining factor for their business or department. The study ensured both genders were represented equally by inviting equal numbers of female and male participants.

Data was collected over a period of approximately one month. Prior to collecting the data, the researcher bracketed her experiences to mitigate the risk for bias to influence the research. Data analysis was to be collected, read and categorized with data displays included in Chapter 4.

## Chapter 4: Results

The researcher explored the lived innovation experiences of ENXP entrepreneurs and intrapreneurs. For this purpose the researcher adopted a phenomenological qualitative approach, outlined in Chapter 3. This chapter includes the data and observations the interviews yielded.

### Research Participant Demographics

The purpose of this study was to explore and thus acquire insights from the lived innovation experiences of ENXP entrepreneurs and intrapreneurs in the United States. The participants were selected based upon the following predetermined eligibility criteria.

- Ability to confirm a personal MBTI type that is either ENFP or ENTP
- Had ever run an intrapreneurial department for at least 3 years with at least one direct report; or had ever owned a business for at least 3 years with at least one direct report; and
- Had at least 3 years of experience relying on innovation as a primary sustaining factor for their business or department.

Twelve individuals meeting these criteria were selected, comprised of equal numbers of males and females. Industries such as technology, education, retail, behavioral health and legal services were represented and participants had an average of approximately 20 years of business experience. Six out of the 12 were intrapreneurs and several participants had experience with several intrapreneurial and entrepreneurial roles. All participants were actively engaged in the operations of their business ventures at the time of the interviews. Table 2 highlights the demographic data of the participants.

Table 2

*Participant Demographics*

Participant	Gender	Industry	Years Working	MBTI	Education	Entrepreneur/ Intrapreneur
Participant 1	M	Technology	15	ENTP	Master's	Intrapreneur
Participant 2	F	Education	20	ENFP	Master's	Intrapreneur
Participant 3	M	Entertainment	25	ENTP	Master's	Entrepreneur
Participant 4	M	Technology	10	ENFP	Bachelor's	Entrepreneur
Participant 5	M	Retail	15	ENTP	Master's	Intrapreneur
Participant 6	M	Retail	15	ENFP	Bachelor's	Intrapreneur
Participant 7	F	Retail	25	ENTP	Bachelor's	Entrepreneur
Participant 8	F	Education	25	ENTP	Doctorate	Intrapreneur
Participant 9	F	Hospitality	25	ENFP	Bachelor's	Entrepreneur
Participant 10	F	Finance	30	ENTP	Master's	Entrepreneur
Participant 11	F	Behavioral Health	30	ENFP	Master's	Intrapreneur
Participant 12	M	Legal Services	10	ENFP	Bachelor's	Entrepreneur

**Data Collection Procedure**

The researcher used purposive criteria sampling to identify 12 available individuals. Starting in September of 2016, the researcher called and emailed potential participants from her personal and professional circles. Each person accepted the invitation to participate and each participant was emailed the informed consent form for their records. The face-to-face, phone, and email interviews took about 60 to 90 minutes to complete and were conducted between September and October of 2016 with an adherence to the study's approved interview protocol (see Appendix F). Participants were emailed copies of the interview transcripts within a week of the interview taking place and approved the transcript of the interview.

**Data Analysis**

The coding process commenced after interviews were completed. Coding involves identifying short words or phrases that form the basis of data patterns which tell the story of the research (Richards & Morse, 2012). To begin coding, the researcher reviewed the transcripts several times with a focus on identifying key words and phrases which were electronically

highlighted by the researcher for later reference. The next phase included the development of a list of codes that were then filtered by participant and code frequency. If a code was presented by half or more of the participants, it was determined to be significant. Out of these codes emerged relevant themes that represented patterns in the codes. The findings section includes themes and significant statements.

## Findings

Each of the seven research questions developed by the researcher was categorized under the three research questions as outlined in Chapter 3. These seven questions were used to guide the interview process. An outline of the relationship between the research questions and the interview questions is included in Table 3.

Table 3

### *Research Questions and Corresponding Interview Questions*

<b>Research Questions</b>	<b>Related Interview Questions</b>
Research Question 1: What is the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs?	<ol style="list-style-type: none"> <li>1. How does being an extravert impact how you experience innovation and prefer to innovate?</li> <li>2. How does being an intuitive impact how you experience innovation and prefer to innovate?</li> <li>3. How does your perceiving function impact how you experience innovation and prefer to innovate?</li> </ol>
Research Question 2: How do ENXPs experience observing, experimenting, networking, questioning and associating when innovating?	<ol style="list-style-type: none"> <li>4. How do the behaviors of observing, experimenting, networking, questioning and associating impact your innovation if at all?</li> <li>5. Which behaviors do you tend to use most frequently when innovation emerges?</li> </ol>
Research Question 3: How have ENXP entrepreneurs and intrapreneurs applied innovation practices to their business?	<ol style="list-style-type: none"> <li>6. Think about a time when you were leading innovation, what did that look like? How would you describe the project?</li> <li>7. What have your experiences been with applying product/process/market/managerial innovation to your business?</li> </ol>



Through the data analysis process, 12 significant statements emerged from the seven interview questions. The researcher determined that statements were considered significant when 7 or more of the 12 respondents referenced the statements. Table 4 depicts the significant statements and number of occurrences per interview question.

Table 4

*Interview Questions Significant Statements and Frequency*

<b>Interview Questions</b>	<b>Significant Statements</b>	<b><i>n</i></b>
1. How does being an extravert impact how you experience innovation and prefer to innovate?	People inspire and energize me I learn from people's diverse points of view	10 8
2. How does being an intuitive impact how you experience innovation and prefer to innovate?	I see patterns in things and synthesize information	11
3. How does your perceiving function impact how you experience innovation and prefer to innovate?	I'm spontaneous and unstructured	10
4. How do the behaviors of observing, experimenting, networking, questioning and associating impact your innovation if at all?	Observing problems, people, or situations gives me ideas Experimenting is something I naturally do and I derive ideas from it Networking helps me innovate because I like learning from people and being exposed to new ways of thinking Questioning the status quo is something that I thrive on and it inspires me Associating disparate concepts gives me new ideas	9 8 8 7 9
5. Which behaviors do you tend to use most frequently when innovation emerges?	Questioning is among my most frequently used behaviors	9
6. Think about a time when you were leading innovation, what did that look like? How would you describe the project?	I partnered with a team to implement as executing is not my strength	9
7. What have your experiences been with applying product/process/market/managerial innovation to your business?	I'm working to improve the business or client experience	9

Quotes from participants and general findings are included in the sections below. As reviewed, Research Question 1 was intended to be addressed by Interview Questions 1-3, Research Question 2 was intended to be addressed by Interview Questions 4-5, and Research question 3 was intended to be addressed by Interview Questions 6-7.

**Interview Question 1.** Interview Question 1 was asked as: How does being an extravert impact how you experience innovation and prefer to innovate? Two significant statements emerged from Interview Question 1. First, 10 out of 12 participants expressed that people inspire and energize them. The following comments represent this statement.

Participant 1 stated, “Being around people helps me to uncover what motivates them and inspires me to create.” Participant 2 stated, “Extraversion feeds me. I care about having an impact with people. I’m always looking at what I can learn from others and combine to create something.”

Participant 5 stated, “Being an extravert helps me think about how to do things better and change up the status quo. I’m inspired to seek out new things and meet new people. Interacting with people is thrilling to me.”

Participant 7 reported,

I enjoy the ability to receive different energy, perspectives, insights and knowledge from a good range of individuals. I enjoy the “spark” of an idea that I can then pull the thread on to then generate new ideas both individually and with a group. I like the ability to put a different lens on an idea or concept. The power of an engaged few is better than just seeing through my own filter. I absolutely look to a broader group for ideas when it comes to innovating a “new product”.

Participant 8 replied, “I like to talk to people. I tend to find that when there’s a problem that innovation will solve; talking to people helps me solve it. Talking to people helps focus my ideas.”

Participant 9 stated, “Being around people helps me be more creative and innovate as I draw on their energy.”

Participant 10 stated, “I love bouncing ideas off of other creative people.”

Participant 11 responded,

For me as an extravert I can have conversations with people that I may not know and I can learn new things from others. Being able to feed off of other people as an extravert motivates me to create. I enjoy learning about other cultures and backgrounds. Being around people is a chain reaction for creativity. What is the need out there? What do people need? That inspires ideas. The more I know the more creative I become and I know and learn from people.

Participant 12 stated,

A major part of my work energy comes from a community setting. Even now I've got this small office in this rural town in Georgia; I made sure it's next to coffee shop so I can step outside of that because I need to be around people. I get focused and a sense of accountability from being around others. I like to process externally. There are a few guys in the coffee shop that I will process ideas with. A friend Tim who is a chef--we process ideas about owning small businesses. I completely value the idea of external processing and allowing someone to interject their opinion; iron sharpens iron is how I see it.

8 out of 12 participants stated that being an extravert helps them innovate because they learn from others. Some of the responses are included below.

Participant 3 replied,

My thinking and mind are influenced by others. Let's say I'm writing lyrics and I listen to another artist and how they compound their words and I see how creative they become, it influences me on the inside and how I express it. My concepts are challenged by others.

Participant 4 responded,

Not only do I get a high off of being around others, but I also rely on them to fill in the gaps for my ideas. If I were to work alone I would have to create, test, and analyze an idea all by myself. In a group setting I can merely present the idea and ask what others think. Often times the work gets done for me, and I don't even have to ask. Everyone is good at something and nobody is good at everything. This is why I prefer group work over isolated work.

Participant 6 reported,

I've worked across a spectrum of design driven teams – from advertising to product development – and one of the great things about design oriented cultures is that they really value divergent sources of inspiration. But I think the idea that having a broad, almost random set of inputs is an ingredient for creative thinking that's useful in any field.

**Interview Question 2.** Interview Question 2 was: How does being an intuitive impact how you experience innovation and prefer to innovate? Nine out of 10 participants expressed seeing patterns in things and synthesize information. The following comments illustrate this significant statement.

Participant 1 replied, “People who are intuitive are able to see trends easily. You constantly guess at outcomes and predicting responses.” Participant 2 stated, “I use intuition to see things no one else can often see. I struggle to add language and verbalize what I visualize, but it gives me my ideas. I constantly make connections and this fuels my ideas.” Participant 3 explained, “I daydream a lot and I can go off on tangents where one thing can connect to something and connect to another. I literally have to travel back to another concept to come up with an idea.”

Participant 4 stated,

Being intuitive is probably the most important thing for me when it comes to innovation. You have to be observant and pick up on potential ideas and areas of opportunity. Seeing opportunity only happens for me when I’m watching things around me and wondering how I might solve them. Once something feels right, you go after it and trust that feeling.

Participant 5 stated,

I like to go deeper and explore underlying meaning and implications. What I do matters in every instance. Instead of being mindless and wasting my life on TV, I focus on the future and it motivates and inspires me. Having realization that we’re going to die someday motivates me to be productive. One new concept I’m interested in is funding a restaurant through corporate sponsorship. Being an intuitive helped inspired me with this idea to take a corporate sponsorship model to a culinary endeavor.

Participant 6 responded, “New things are interesting, most of them get rejected, others are kept to free associate with the rest and make new ideas.” Participant 8 stated,

I use a lot of quantitative data that I like to print out and touch and go over and take a walk and allow it to tell a story. I process data and have hunches. I get ideas from the patterns I see.

Participant 9 replied,

As an intuitive, I'm always are looking at what's out there, assessing, and seeing what's been done to use this information to create my own. As an intuitive, I use the information I take in to create and be innovative.

Participant 10 explained,

I pull ideas from my imagination and conversations that have existed all around me for most of my life. What did it take to grow up in an environment with drugs and guns on the bus but still see a way out of there? I've been asked if I had my ideal job what would I like to do more than anything. It would be creating. It would be ideas. I'm certain that another financial crash is coming between next month and April. Everything I've been putting in place doing workshops to educate people. I would take what I know intuitively and respond to that.

Participant 11 stated,

I can connect dots easily and I don't know how to explain how I do it. I can relate things together and it's hard to articulate how it works. Being intuitive is second nature to me so I don't know anything else. It helps me be creative.

Participant 12 stated,

I love to talk about an idea and see the concept, but as far as managing the application of how to get there, I need to have other people handle the execution. I loathe the day in and day out. I believe in the concept of discovering your strengths but working on your weaknesses. I love visioning but as far as breaking down what someone has to do on a daily basis, that's not a strength of mine and likely won't be. I balance this out with the right team members. I see intuition as critical to actually innovate. A leader that is innovative can't be tied down to the day to day, but will be focused on the future and connecting the dots. Working with INTJs is great because ENFPs can be a bit reckless and bold with ideas. Balancing out as a leader with an INTJ helps so much because INTJs see the possibilities and can make the plans to get things done. INTJs ask the hard questions that can seem skeptical and negative at first, but are actually beneficial and important in executing a plan that can make the idea viable.

**Interview Question 3.** Interview Question 3 was the following: How does your perceiving function impact how you experience innovation and prefer to innovate? Ten out of 12 participants expressed statements related to being spontaneous and unstructured as seen in the following example comments.

Participant 1 stated,

You're an opportunist. You recognize opportunity. You're able and agile in your thinking. The worst thing for someone who is a perceiver is the missed opportunities. Perceivers can jump in and out of commitments. We're not committed to any given idea. We're open to new ideas and failure and rejection don't bother you. I'm only comfortable with never being comfortable.

Participant 2 replied that, "Living a less structured life helps me be creative as I'm always learning. You have to be willing to go outside an established structure to seek something different." Participant 3 explained, "I don't like structure. I live a life that is spontaneous. Planning too far ahead in the future will cause me to lose my lack of spontaneity. One of my biggest fears is being in the status quo."

Participant 5 explained,

Corporate America drives me crazy because it's so structured and limiting with red tape everywhere. I don't want to be told what to do. I want to do things my way without people telling me what to do. This desire to be free inspires me to create and innovate. When I am forced to be structured, I feel confined and it limits me creatively.

Participant 6 responded,

It's very common to get negative feedback on an initial build that results in course correction and redefinition of priorities. I think this is standard way of operating for the biggest players in tech innovation. It allows big teams to work against really aggressive timelines and provides some structure to stay organized around constantly shifting targets. For me, it feels comfortably light but not entirely informal.

Participant 8 stated,

I find that when I'm in leadership roles and working with other people, people are more open to sharing their ideas and innovation with me because I don't think in such a regimented way. I allow space for creative thoughts.

Participant 9 stated, "Being spontaneous you keep in the moment; it allows you to experiment and try new things that others would not."

Participant 10 replied,

What makes me such a good risk manager? I can anticipate things. Having that ability makes me good at innovation. I can look at the probability of something happening. The other part of that is I can look for solutions to mitigate the risk.

Participant 11 responded,

I have to think about the end result and keep learning and options open to get there. Others cut off options when they make quick decisions whereas perceivers like me are going to hold off and consider more ways of getting to the end result. This leads to creativity. I struggle with people who don't consider more options and make decisions quickly. This stifles creativity for me.

Participant 12 stated,

Perceivers like me want to keep asking "what if" and remain open to new concepts. For judges once a plan is in place they want to stick with it. I don't have a desire to close the decision making process, like a judge would. When you combine intuition and perceiving it basically means you take in lots of data and leave doors open. I have lots of ideas, but need to have structure in my life to balance things out. Just like many amazing musicians might have mood disorders like bipolar but use those perceived weaknesses to create great music, many entrepreneurs are going to fail several times before they have an innovation that truly pays off. It's a little crazy to keep trying, but it's what we do.

**Themes for Research Question 1.** The responses from interview Questions 1 to 3 provided content for themes that addressed Research Question 1 regarding the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs. Three themes emerged from the four significant statements pertaining to the lived experience: impact of people on the innovation process, experience of learning and synthesizing information to innovate, and the impact of spontaneous living on organizational innovation.

*Impact of people on the innovation process.* Several of the ENXP entrepreneur and intrapreneurs placed extreme importance on their interactions with others as a source of inspiration for innovation. Interactions with people motivated and educated the ENXP. It was common to hear participants describe the energy they derive from meeting new people and how they use this energy to create new things. The participants also expressed a desire to learn from others and use this knowledge to innovate.

*Experience of learning and synthesizing information to innovate.* Whether it was learning from other people, experiences, businesses, or research, the participants emphasized a desire and need for continuous learning. Participants described referencing past experiences and information to come up with new ideas, after the fact. The reference to learning as an intuitive and connecting the dots to develop new concepts was also prevalent.

*The impact of spontaneous living on organizational innovation.* The participants spoke of a strong preference for creative thinking. The interviewees desire to live without restrictions and rules. There was a prominent belief that this spontaneity leads to greater creativity and innovation.

**Interview Question 4.** Interview Question 4 was: How do the behaviors of observing, experimenting, networking, questioning and associating impact your innovation if at all? Five significant statements emerged from this question. First, 9 out of 12 participants indicated that Observing problems, people or situations gives me ideas. The following responses reflect this significant statement.

Participant 1 stated, “I observe problems and it inspires me all of the time. For example, I look at the new chip readers and think, why do we have those stupid chip readers? Can’t we solve this with something better?” Participant 2 responded, “I take in current events and assess situations constantly. I watch and then often wonder why—why is something done this way? What prompted that person to act the way they do?” Participant 3 replied, “Ideas spark not only from having discussions. We observe everything and before you know it, we have an idea that emerges.” Participant 4 stated, “All five behaviors play a significant role when I am innovating. Observing is where it all begins for me; from there everything else takes place.” Participant 6 responded,



Observing is a big tool for me. I usually benchmark against existing products or any relevant points of comparison in my work. I'm always surprised when competitive analysis isn't the starting point. I often open various smart phone apps in the middle of conversations about product features, and pass my phone around the conference room table so that people can see how other providers handle UX/UI implementations.

Participant 8 explained, "I always have a pulse on things and I can't help but pick up on things. If there's a problem I will naturally try to solve it." Participant 10 responded, "I assess what I feel and see on the inside with the outside world." Participant 11 stated, "I wouldn't be inspired without observing people. I don't know how to innovate without observing people and situations. I feed off of the people and culture around me." Participant 12 replied,

A lot of times my ideas arise from just taking things in. Observing inanimate objects isn't really interesting to me, but when I add in a relational component then it's interesting. Am I going to observe sheer mechanics? No, but do I listen to the feedback of customers, observe it and then get ideas, yes.

Another significant statement was regarding the natural tendency to experimenting and the role of experimentation as a source of innovation. Several of the participants described the desire to experiment as intrinsic to who they are as individuals. Eight out of 12 participants described the importance of experimenting on the innovation process. Participant 1 stated,

I always experiment throughout the day. What if I went and tried this or said this to this person? What if I tried this with this scenario what would happen? I achieve a lot of experimentation in my own sandbox.

Participant 2 responded,

I've lived my life trying new things, whether it's new friendships, causes or groups—I like to seek out new ways to experience life. This feeds my base of knowledge and gives me ideas that have turned into business concepts.

Participant 3 replied, "By experimenting we design. We try new things and that's how innovation emerges. I frequently find myself experimenting with new business concepts."

Participant 8 responded, "I do experiment in personal and professional life. A kid was having

problems in reading and learning. I had an idea to experiment new program where kids learn to read through spelling contests.” Participant 9 replied,

Yes, I experiment and take risks. I like to experiment with what will be more economical. I innovated and developed my own line of food and explored ways to launch that. Experimenting Why not try it another way it could save more time and money. People often say that things should be done a certain way. I question the old recipes. I create new directions and ways of doing things.

Participant 10 stated,

This is what I do constantly. Experimenting and seeing something fail often has nothing to do with whether or not something is a good idea and more to do with not getting proper buy in early on, which results in me being out there by myself.

Participant 11 responded,

How do you broaden your ability to innovate without new experiences? You have to go to new places, find out new things. My creative juices flow when I’m around new people. I have to have people around me. The ideas originated from my surroundings and new things I’ve tried. I experiment often. Sometimes it’s good and sometimes it doesn’t work out the way I think it should.

Participant 12 stated,

How does someone get good at what they’re supposed to do without experimenting? It boggles my mind that people don’t learn in a more hands on way. I don’t get the classroom learner. If you work on something it will start to fit. My primary experimenting in work has been hands on experiments with clients. Consulting is so much about experimenting. You iterate, distill and then bring it back to something concrete. People sometimes struggle with ending the tweaking.

Several participants described the behavior of networking as important for innovation.

The propensity to network was often connected to a desire to learn from others. Eight out of 12 participants describe how networking helps them innovate.

Participant 1 stated, “I have to interact with people to get inspired. I network for something I can use but I’m interested in people. Whoever I sit next to on the plane or whoever is in my orbit.” Participant 2 responded, “Meeting with new people is what helps inspire the ideas. We don’t want to influence others in business, but to learn from them and exchange ideas.

I like to inquire about the views of others.” Participant 3 replied, “Networking helps inspire me with new ideas. We want to know various opinions. If everyone thought the same way, life would be dull. It’s the variation that inspires us to create.” Participant 4 stated, “I have to find others that have experience and expertise to ensure that I’m on the right path. Each one of these behaviors plays a big role in the way I innovate.” Participant 5 replied,

I frequently engage in all five behaviors. Take networking for example, I will talk to anybody and everybody. The extravert in me likes attention. Being around people energizes me. I love networking and meeting people unlike me. I help a friend with wedding photography—not because I need the money as he doesn’t pay me, but because I have so much pent up energy to want to talk to people. People inspire me and I feel like I’m making a difference and impact by listening, interacting and learning from them.

Participant 8 stated, “Getting out and meeting people helps spark and activate new connections in the brain. I get stale if I’m not stimulated. Maybe it directly applies to innovation upon consideration.” Participant 10 responded,

I can usually pick up on what others are going through and use this to get people excited. When it comes to actually being with people on intimate level, I struggle with that. I think there’s fear of letting people get too close to me.

Participant 11 replied,

I won’t network for the sake of networking. I network in a nontraditional way. I made 3 new friends in one night. I just begin talking to people and learning from them. Networking events aren’t organic and don’t inspire me the same way. I have walked away with new ideas from people. I walk away with new information and new experiences I draw upon oftentimes later on after the fact. I tend to take more time to be creative. People inspire me and ignite the creativity in me.

Participant 12 stated,

I get ideas from observing what people have to say. I value the input that people have. I sometimes take too much time to listen to them. But, sometimes leaving that door open for communication can help and pays off with new ideas.

The desire to question the status quo and ponder “why things are the way they are” was a common significant statement. Seven out of 12 participants described the importance of questioning on the innovation process. The responses are included below.

Participant 1 stated, “I have core ideas about what it means to be a human and improve their way of life and I question based on these principles.” Participant 2 replied,

As a kid I was always described as curious. I was surrounded by people who wanted to keep me in the status quo. I developed a defense mechanism to learn to adapt to conform. I was punished for questioning, but there was always an inner curiosity. I always had to learn more. I don’t understand the mindset of “no matter what, my view’s going to be this way”. Why not question that? Being around others who are not adhering the status quo inspires me to create.

Participant 3 responded,

In 1996 I started my company because I was looking at awful government websites and I wondered why government websites looked so bad. I challenged myself to do better, to create something better. That was my challenge to myself. I got a universal records contract and improved the site through innovation. If there’s a dead party I might say something controversial to get a crowd going.

Participant 4 stated, “I have to question the norm and question myself.” Participant 6: replied, “Innovative ideas challenge comfort zones and you have to use your spidey sense to know where you can successfully push the barriers.” Participant 8 replied,

I like when people bring their problems to me. I won’t hold their hands and solve it but I will try to listen and bounce ideas. I try to be a coach. I question why things are done the way they’re done, or why something would happen in such a way. I like to listen.

Participant 10 stated, “I have a running dialogue in my mind of ‘what if.’ I am really good at connecting and these questions motivate me to innovate and create new things.”

Participant 11 replied,

For me questioning is probably one of the top ways ideas come to me. I question a lot of things. Sometimes it can make people feel insecure when it’s just a creative thought process for me to challenge the way things are. In certain work environments I am stifled because of challenging the status quo. I don’t challenge things in a judgmental way. I

always think there are more creative better ways to do things. People find growth and change.

The practice of associating to innovate—or making connections between seemingly unrelated concepts—represented another significant statement. The participants described how innovative ideas come from making associations. Eight out of 12 described this experience.

Participant 1 explained, “I use associating to be resourceful and explore new options.” Participant 2 replied, “I’m constantly taking in new information and relating it back to my “database” of existing knowledge. From there, I create new ideas.” Participant 4 stated, “I have to associate what has worked before and how it might work again in a new way.” Participant 6 replied,

Making associations fuels the creative process. An inability to connect ideas would be like the writer’s block of the innovation process. One sort of discrete way I’ve harnessed this process is in team exercises where everyone writes ideas for features on post it notes, and you see what groupings emerge. Once you understand the groups you can look at it from the other direction and identify gaps in the feature set to come up with more ideas.

I have random ideas about how technology could be applied to my love for rock climbing. For example, augmented reality glasses that show an overlay of a climbing route as you ascend - think along the lines of how those star chart apps work, only using wearable technology for the display. It could provide details about what gear is needed for each pitch, where to place specific pieces of protection and what you’ll need higher up. Info on how much rope you have left before you have to build an anchor.

Participant 7 responded,

Associating can be a fun “challenge” if it’s (again) interesting to me. I like to see how things can apply in different categories and fields but sometimes I think people try too hard to make things fit that just don’t and then it gets messy. I would say if someone comes up with a good idea though associating I would be eager to hear the idea. I try to balance associating with the “reality” of the situation so it’s not forced. Does it really fit? Is it really an option for this situation?

Participant 8 stated,

I frequently associate. One recent example: my husband works in a hospital in the surgery room. His department obtained a 100% rating. I helped create this concept by

sharing ideas about how to evaluate for his program using education principles in a healthcare setting.

Participant 9 replied, “I make connections between different styles and use the best to create new things.” Participant 10 reported, “I tend to see things that are connected that other people don’t. I get excited about those things.” Participant 11 stated,

There are so many institutions that are archaic, like behavioral health. It’s such a non-concrete science and people keep recycling the same information over and over again. Many fields like behavioral health and higher education are so change averse, and innovation is stifled because we don’t look ahead. I often apply principles from outside of behavioral health to come up with new ways of serving clients.

Participant 12 reported, “I love when you can take two disparate concepts and relate them together. This is how I innovate and come up with new ideas.”

**Interview Question 5.** Interview Question 5 was as follows: Which behaviors do you tend to use most frequently when innovation emerges? One significant statement emerged from this question related to the importance of questioning. While several participants referenced a belief that all five behaviors are critical to innovation, 9 out of 12 included questioning in their response regarding which behaviors are used most frequently.

Participant 2 reported, “Networking and questioning inspire me more than anything. I like to meet with people and ask them how they arrived at a conclusion. That’s often the heart of how I innovate.” Participant 3 replied,

Definitely questioning. The one question is why? We’d have a much better planet if people just asked the question, “Why?” People often want to jump in as knowing something already instead of discovering a new way. I can’t stand the status quo. Who wants to be and think like everyone else? That’s boring and stifles creativity.

Participant 5 said,

Observing, experimenting and questioning are behaviors I use most to innovate. I like to question things constantly and tinker with processes to make them better, which leads to process innovation. I love change and always seek to uncover what could be changed.

Participant 6 responded,

It doesn't seem like these behaviors happen in isolation. The questions we ask stem from associations we have based on observations we've made. Maybe observation is the key behavior because it is the starting point for the rest. Or maybe experimentation is the key to making observations. Chicken and egg.

Participant 7 replied, "I lean in on networking, questioning and experimenting. Those are fun behaviors for me." Participant 8 responded, "I use all of them but probably lean on observing and questioning the most." Participant 10 explained,

I use questioning and associating the most when I innovate. This is part of where I peak out. I wake up and there's something there that makes me curious about what's happening. For example, recently I woke up wondering, what's going on in Venezuela? How do they owe us 18 trillion dollars? When did we have this money to loan them? That inspires me to move my money elsewhere. This type of questioning has inspired me to create a business and revenue stream. It's made me good at trading stocks.

Participant 11 stated, "Questioning is a big one for me. Associating is another big one for me. Those two."

**Themes for Research Question 2.** The responses from interview Questions 4 and 5 provided content for themes that addressed Research Question 2 regarding how ENXPs experience observing, experimenting, networking, questioning and associating when innovating. Two themes emerged from the six significant statements pertaining to the lived experience of ENXPs to answer Research Question 3. First, innovation is initiated and developed using each of the five behaviors. The second theme was that questioning is used with greater frequency than the other behaviors.

***Innovation is initiated and developed using each of the five behaviors.*** The participants described how the five behaviors impacted their innovation practices. The majority of the participants described regularly using all five behaviors. The responses often indicated these behaviors to be "second nature" to the ENXP.

*Questioning is used with greater frequency than the other behaviors.* When asked which behaviors were used most frequently, 9 out of 12 participants included questioning as part of their response. Questioning was cited as part of the idea generation process. Questioning was also referenced as a critical component used in further developing and testing innovations.

**Interview Question 6.** Interview Question 6 was: Think about a time when you were leading innovation, what did that look like? How would you describe the project? From this question, one significant statement emerged. Nine out of 12 participants described partnering with a team to execute on an innovation. Some excerpts are included below.

Participant 1 replied, “You’re testing and testing using people way smarter than you to give you feedback and tell you why you suck.” Participant 2 responded,

I started an innovation as an intrapreneur with a construction company. I developed a new flooring product. I knew the developers knew more about the product. I had the team build a new product that to me made sense and I tested it in the marketplace. It increased sales.

Participant 4 stated,

In my experience, you need a team in order to push a new idea. Sometimes it takes several respectable people just to convince others that your project is important and feasible. Additionally, it takes a unique team in order to take the idea from concept to completion. Some people bring on team members for their experience alone, but that is not enough. You need smart people that actually care and see the vision. You need every team member to have the ability to stand up and pitch the idea if necessary.

Participant 5 replied,

I had so many ideas that I had to enlist the help of a project manager to give me focus. I engaged in several conversations to get things moving and get inspired. I got buy in from executive leadership and delivered the program in partnership with those who could execute. The program was developed 5 years ago and has since been expanded and developed and has led to increased profitability by approximately 10% through reduced turnover.



Participant 6 responded,

I'm in the middle of trying to lead what I think is an innovative idea. It's a feature concept based on a technology platform my team is developing. I shared the idea with some product and design people on my team a few months ago, but I didn't really get any traction. I probably should have written a proposal, but I was stretched thin at the time and just let it go. Later I raised the idea again and got at least some interest. So now I'm writing a proposal that I'll share in roadmap discussions, and hopefully I can get some interest to explore further. If it ends up working out, it wouldn't be the first innovative idea that was not received well at first.

Participant 7 replied,

I created the innovation of a field marketing program that involved getting employees to reengage and to innovate themselves. The goal was to break out of the clutter, cause disruption in the markets we were in through different approach to our sampling program. In order to do this I needed the entire team involved in feedback and ideas. Not only did this help us land on some new strategies the team felt they had a "say" in the changes and it was something they contributed to. I felt I was able to challenge them in their approach and at the same time get what we needed as a company.

Participant 8 stated,

If you teach fifth graders to read like second graders, there are problems. We put together a steering committee. We looked at the problem. I pulled research for everyone to read. We researched and it led to implementation of a system that created process innovation that improved test results. We created system where assessments are used at different place in student lifecycle. The result is severely behind level kids are improving drastically.

Participant 11 replied,

I constantly think about what we can do to make things better. How can we get more people to know who we are? How can we build ourselves better? I'm always talking and thinking about it. We just had a retreat and we outlined problems and barriers of what we wanted to do. We question those ideas and long and short-term ideas and outcomes.

Participant 12 reported,

To begin the process of innovation, I decided we're going to observe the work being done and identify the known variables impacted by the current process. I offered context and fodder for conversation with team members and defined what some of our options are. Our team worked using various options for the next couple of days to see what worked and what didn't. We then basically thought about and discussed which ideas should be pursued and not, and set a timeline for executing that. Some of the application of those

tweaks has been challenging. As a team we're becoming more aware and put our ideas and ideals against reality to implement solutions that work.

**Interview Question 7.** Interview Question 7 was as follows: What have your experiences been with applying product process market managerial innovation to your business? Eight out of 12 participants described the experience of focusing on improving the business or experience. Some of the comments related to this significant statement are included below. Participant 1 replied,

Every product creates something in someone's life that makes their life easier. Everything we consume is for an outcome. We need to think about outcomes or the work that's being done not outputs when it comes to innovation. The output is the car company puts out a new car. The outcome is guy can get to work on time.

Participant 3 replied, "I live in constant process innovation. With our new podcast, I innovate with new concepts all of the time, quickly take them into the market and then assess their long-term viability." Participant 4 described, "There is nothing more satisfying than building something new that will make a big impact in the world. Seeking innovation leads to big opportunities and those that seek after it reap the benefits." Participant 5 replied,

We had awful turnaround for client communication in 50 million to 2 billion middle market. That kind of follow-up is unacceptable in financial industry. I developed new e-follow up strategy that reduced turnaround time to within 2 hours. We reduced staff allocation for this effort and increased productivity.

Participant 9 responded,

For example, to increase profitability for our fresh basil product, we analyzed the market and focused in on farmer's markets as distribution channels for our products. We identified new types of people and emerging markets. We found ways to cater to vegetarians that are only interested in eating new processed, yet organic foods. We figured out that this was a new market for our products and sales have increased as a result.

Participant 10 stated,

Sometimes it's something as simple as convenience. One of the reasons that Steve Jobs was successful, was he always looked at what he could take away to make things easier

for people. Could we make things fun for people? In my business now, I look at what could make things easier for people. How can they get these concepts quickly?

Participant 11 replied, “To stay relevant we have to keep our content fresh and innovative so we have a constant focus on product innovation. This helps us to generate more corporate sponsorships too.” Participant 12 responded,

I listen for the issue the client is communicating and develop process and product (or service) innovation. In general, there are a lot of things that team members and I have come across that have viability. We have to distill those concepts and bring them to market and sell them.

**Themes for Research Question 3.** Research Question 3 explored how ENXP entrepreneurs and intrapreneurs have applied innovation practices to their business. Interview Questions 6 and 7 addressed Research Question 3. Using the interview data, the researcher identified two significant statements. The first significant statement pertained to partnering with a team to implement an innovation. The second significant statement was related to a continuous focus on business or client experience improvement. From these two significant statements, emerged two themes: partnering with a team is critical to the business and entrepreneurs and intrapreneurs experience a constant focus on external improvement.

*Partnering with a team is critical to the business.* The majority of participants described working with a team at varying points in the innovation process. For example, some preferred to brainstorm with a team when generating initial ideas. Others mentioned working with a team to implement the innovation. Some referenced working with a team to further develop or improve the innovation. Regardless, the theme of working with others was prevalent.

*ENXP entrepreneurs and intrapreneurs experience a constant focus on external improvement.* Whether the entrepreneur or intrapreneur was focused on how to make the world better for others, or how to improve a specific component of their business or product, the

majority of participants described a strong desire to improve things that were external to them. Instead of describing a focus on personal improvement or challenge as a motivator for innovation, the participants described the desire to improve external factors such as the quality of life for others, the convenience of product use, or the health of the business.

### **Summary**

Included in this chapter was a thorough report of the data collected from 12 participants who answered 7 interview questions to address three research questions. Using coding, the researcher identified 12 significant statements that were organized into 7 themes that provided answers to the research questions. For each research question, Table 5 shows the interview questions, significant statements and themes.

ENXPs experience innovation by experiencing people. Through interactions with others, the ENXP learns and is inspired to generate innovations. ENXPs also commonly report the experience of learning and synthesizing information to innovate. They frequently see patterns in data and situations and “connect the dots” in ways others may not. ENXPs tend to live unstructured and spontaneous lives that inspire innovation as the ENXP resists boundaries and structure that might stifle creativity and innovation.

For the ENXP, innovation is initiated and developed using each of the five innovation behaviors. ENXPs report regularly using observing, experimenting, networking, questioning and associating to innovate. Of the five behaviors, questioning was used with greater frequency than the other behaviors.

Table 5

*Research Questions, Significant Statements, and Themes Overview*

Interview questions	Significant statements	Themes
Research question 1: What is the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs?		
1. How does being an extravert impact how you experience innovation and prefer to innovate?	People inspire and energize me. I learn from people's diverse points of view.	Impact of people on the innovation process. Experience of learning and synthesizing information to innovate. The impact of spontaneous living on organizational innovation.
2. How does being an intuitive impact how you experience innovation and prefer to innovate?	I see patterns in things and synthesize information.	
3. How does your perceiving function impact how you experience innovation and prefer to innovate?	I'm spontaneous and unstructured.	
Research Question 2: How do ENXPs experience observing, experimenting, networking, questioning and associating when innovating?		
4. How do the behaviors of observing, experimenting, networking, questioning and associating impact your innovation if at all?	Observing problems, people, or situations gives me ideas. Experimenting is something I naturally do and I derive ideas from it. Networking helps me innovate because I like learning from people and being exposed to new ways of thinking. Questioning the status quo is something that I thrive on and it inspires me. Associating disparate concepts gives me new ideas.	Innovation is initiated and developed using each of the five behaviors. Questioning is used with greater frequency than the other behaviors.
5. Which behaviors do you tend to use most frequently when innovation emerges?	Questioning is among my most frequently used behaviors.	
Research Question 3: How have ENXP entrepreneurs and intrapreneurs applied innovation practices to their business?		
6. Think about a time when you were leading innovation, what did that look like? How would you describe the project?	I partnered with a team to implement.	Partnering with a team is critical to the business.  ENXP entrepreneurs and intrapreneurs experience a constant focus on external improvement.
7. What have your experiences been with applying product/process/market/managerial innovation to your business?	I'm working to improve the business or client experience.	

For the ENXP, partnering with a team is critical to the business. As extraverts, ENXPs value a team approach to the innovation process whether it is in the initial brainstorming process, or perfecting a well-established innovation. ENXP entrepreneurs and intrapreneurs experience a constant focus on external improvement. They innovate from a desire to improve external circumstances such as the client experience or the health of their business.

The next chapter will include an in-depth exploration into the seven themes identified in Chapter 4. Chapter 5 will also include the implications and limitations of the findings. Last, recommendations for further research will be identified.

## **Chapter 5: Discussions, Implications, Recommendations, and Conclusion**

The purpose of this study was to explore the lived experience of organizational innovation among extroverted intuitive perceiving (ENXPs) entrepreneurs and leaders in innovation focused roles (intrapreneurs). This phenomenological qualitative study collected cross-sectional data, and the specific variable identified for study was the participants' experience of each of the five personal innovation behaviors as defined by Dyer et al. (2011): associating, questioning, experimenting, observing, and networking. For the purpose of this study, the variable of innovation was defined as product, process, market, and management (or policy) innovation (Avermaete et al., 2003). The goal of the study was to learn how innovation experiences apply to innovation.

Data was collected through the use of seven interview questions that were presented to 12 intrapreneur and entrepreneur participants. Data coding was used to analyze the collected data and identify significant statements and themes. The significant statements were organized into categories of data or research themes. Seven major themes emerged and these themes addressed the research questions: (a) Impact of people on the innovation process, (b) Experience of learning and synthesizing information to innovate, (c) The impact of spontaneous living on organizational innovation, (d) Innovation is initiated and developed using each of the five behaviors, (e) Questioning is used with greater frequency than the other behaviors, (f) Partnering with a team is critical to the business, and (g) ENXP entrepreneurs and intrapreneurs experience a constant focus on external improvement.

Chapter 5 discusses each theme as it relates to the Chapter 2 literature review. From there, the implications and potential limitations of the findings were included. Recommendations for further research and a conclusion are included in this chapter as well.

## Discussions

It is important to examine the findings of this study through the lens of comprehensive research to provide context for the themes and a depth of understanding regarding implications and recommendations. The seven themes that emerged during this study have been evaluated in light of Chapter 2's related literature. An overview of each theme is included below.

**Impact of people on the innovation process.** Several of the ENXP entrepreneur and intrapreneurs placed extreme importance on their interactions with others as a source of inspiration for innovation. Interactions with people motivated and educated the ENXP. It was common to hear participants describe the energy they derive from meeting new people and how they use this energy to create new things.

The participants also expressed a desire to learn from others and use this knowledge to innovate. This is consistent with the literature review findings. Introverts focus energy inward towards thoughts, personal experiences, and ideas; and when communicating, introverts typically consider their thoughts before speaking (Isaksen et al., 2003). Extraverts, on the other hand, gather energy from the environment and direct energy outwards to people and the outer world which serve to invigorate and motivate the extravert. In general, extroversion is associated with more external action and interpersonal interaction. Participants described a desire for external processing of ideas with others and a tendency to become inspired to innovate through learning from people. Participant 2 pointed out,

Extraversion feeds me. I care about having an impact with people. I'm always looking at what I can learn from others and combine to create something. People inspire me to make movement. I get inspired through movements and expression through interactions.

Participants also describe how interactions with people help fine tune and develop existing ideas or products. As Participant 6 reported,



Feedback is obviously an important part of developing new ideas and refining them. You have to interact with your target audience to hear what they have to say—what do they need, and how does it line up or not with your solution. Figuring out where problems and pain points exist is usually the beginning of the process of innovation. You have to get involved with people to understand what they want in a way that gets you the right kind of reactions. When you're developing a totally new idea or concept it can be hard to get meaningful reactions because the feedback you get is based on the current landscape, so you have to get inside people's heads to tune your understanding.

**The experience of learning and synthesizing information to innovate.** Whether it was learning from other people, experiences, businesses, or research, the participants emphasized a desire for continuous learning. Participants described associating past experiences and information to come up with new ideas, after the fact. The reference to learning as an intuitive and connecting the dots to develop new concepts was also prevalent. As the research shows, intuitives are future-focused and perceive and process information in terms of possibilities, connections and patterns. Intuitives may struggle to describe how a particular perception was developed because instinctively the intuitive connects seemingly unrelated patterns and thoughts to develop and formulate a thought (Isaksen et al., 2003). Nonetheless, as an intuitive the ENXP is likely to struggle to articulate how information is processed as participant 11 described,

I can connect dots easily and I don't know how to explain how I do it. I can relate things together and it's hard to articulate how it works. Being intuitive is second nature to me so I don't know anything else. It helps me be creative. For example, my husband will say something and I can connect all smaller patterns to formulate one big thought. There is no box for me.

As the research shows, entrepreneurs generate ideas and they often naturally excel at approaching people, processes and products differently to learn and take in information (Caitlin & Matthews, 2001). Like the participants described, entrepreneurs are likely to resist the routine and instead pursue novel concepts. This desire to continue to learn and explore inspires new thinking for the entrepreneur or intrapreneur. Entrepreneurs are also committed to continuous improvement and the desire to make things better fosters creative thinking around solutions.

Entrepreneurs notice trends and patterns that give them a pronounced sense of what is to come (Caitlin & Matthews, 2001). Entrepreneurs are able to cast compelling visions of the future that others can grasp. Futuristic thinking is rare and entrepreneurs tend to possess it, and combined with other aforementioned characteristics such as confidence, independence and creativity, their vision can be contagious. A desire to continuously learn helps fuel the vision and creativity.

**The impact of spontaneous living on organizational innovation.** The participants spoke of a strong preference for creative thinking. There was a prominent belief that this spontaneity and lack of structure leads to greater creativity and innovation. The interviewees expressed a desire to live without restrictions and rules. Participant 3 explained an appreciation for spontaneity,

I don't like structure. I live a life that is spontaneous. Planning too far ahead in the future will cause me to lose my lack of spontaneity. One of my biggest fears is being in the status quo. Being spontaneous with calculated risk. I'm not going to prison, but aside from that, I resist structure. It keeps me creative because it keeps my mind sharp and brain waves going. If you follow pattern of everyone else, you won't create something new.

It is important to the entrepreneur to feel the ability to control the future and not look to external sources for control. In fact, the desire is so strong it can be described as a need for personal control that in part inspires the entrepreneur to create the business (Greenberger & Sexton, 1998). While many employees view events as happening *to them* and often take on the role of a passive observer, the entrepreneur tends to take control of the situation and see himself/herself in the driver's seat (Grigore, 2012). Many entrepreneurs left companies and bosses to have the opportunity to be the boss and assume total control of an organization. Entrepreneurs are often highly independent individuals who resist external control, whether it

take the form of a micro-managing supervisory relationship, a strict bureaucratic environment, or others rules and regulations.

Participant 1 described how being free from commitments and comfortable with failure and ambiguity frees him up to innovate,

The worst thing for someone who is a perceiver is the missed opportunities. Perceivers can jump in and out of commitments. We're not committed to any given idea. We're open to new ideas and failure and rejection don't bother you. I'm only comfortable with never being comfortable. I don't feel the negative. Having a short memory can help as consistent failure is part of innovation. If I was a trust fund kid, I'd likely be ostracized from society and locked up with the risks I'd take.

This implication is consistent with the literature review research. Because it allows them to overcome challenges and achieve, the ability to thrive in ambiguous situations is directly related to the entrepreneur's creativity and personal satisfaction (Carland et al., 1984). The ability to tolerate and perform in an ambiguous environment is critical to long-term innovation and creativity and innovators are known to create and seek out indefinite situations that others may avoid (Mitton, 1989). While many employees avoid ambiguity, entrepreneurs often thrive in these environments (Schere, 1982). The uncertainty can present a challenge and the entrepreneur sees opportunity amidst the lack of structure. Moreover, they often have a vision for the future that helps them navigate during uncertain times when others are not able to see alternative directions. Similar to the entrepreneur's ability to tolerate ambiguity, they also tend to be able to innovate and create solutions others may not see or pursue (Grigore, 2012). Entrepreneurs have a desire for the new and different. The appeal of novelty leads to the development of new technology and products and the exploration of new markets. While the entrepreneur may be the one to introduce the innovative concept, it is often the entrepreneur's team or partner that will ultimately figure out the details to implement the solution.

According to Okhominina (2010), risk taking is one of the most distinguishing entrepreneurial personality characteristics. Participants described a willingness to take risk and live without rules or structure. Moreover, the willingness to take risks is strongly correlated with an individual's innovative or entrepreneurial proclivities because entrepreneurship is often associated with personal and financial risk that managers or executives tend to shun (Koh, 1995). Entrepreneurial risk taking in the business sphere often manifests as the pursuit of business ideas others would avoid (Grigore, 2012).

**Innovation is initiated and developed using each of the five behaviors.** The participants described how the five behaviors impacted their innovation practices. The majority of the participants described regularly using all five behaviors. The responses often indicated these behaviors to be “second nature” to the ENXP. As Participant 3 explained, “In any business or company if you don't have all 5 of those things the business will not be successful. It's all five of those behaviors that are required for a business to be successful.” The majority of participants described using the five behaviors to innovate and they interpreted and applied the behaviors in ways consistent with i-DNA definitions.

As the literature describes, the first behavior referenced—and what is arguably the cornerstone of the innovator's DNA model—is the practice of associating (Dyer et al., 2011). The associating component is described as the primary component by which the other behaviors function and it is also noted that the other behaviors serve to increase an individual's ability to associate thereby making the ability to associate an ever-increasing peculiarity of the innovator. This idea was expressed by Participant 6 who described it as core to the innovation process,

Making associations fuels the creative process. An inability to connect ideas would be like the writer's block of the innovation process. One sort of discrete way I've harnessed this process is in team exercises where everyone writes ideas for features on post it notes,

and you see what groupings emerge. Once you understand the groups you can look at it from the other direction and identify gaps in the feature set to come up with more ideas.

Associating is a cognitive function that describes how innovators connect the dots between seemingly unrelated patterns or issues. Associating is seen as critical to innovation because it yields new ideas when an intersection of ideas, philosophies or industries occurs. While associating is a cognitive function, the authors argue that it can be developed and that innovators seek out associating experiences so as to strengthen the association attribute. For example, to foster more questioning, observing, networking and experimenting, innovators are more likely to attend popular *association-intensive* conferences like TED to acquire more information from diverse sources (Dyer et al., 2011). The brain works by storing information and relating information back to a frame of reference. The broader a body of knowledge in the brain, the more the brain becomes a breeding ground for associating thinking as there is more diverse content from which to draw. Participants described engaging in activities that would increase associations.

Innovators show a demonstrated tendency to frequently ask questions and quite often, they ask the questions that others may refrain from posing (Dyer et al., 2011). Questioning has long been associated with creativity and groundbreaking innovations; for example, the majority of Nobel laureates were found to have generated notable success by first focusing on the right questions (Csikszentmihalyi, 1997). Questioning is seen as critical to deciphering solutions. Innovators are more likely than executors or non-innovators to ask questions more often and to ask the questions that disrupt current systems (Dyer et al., 2011). It is not uncommon for these questions to even be considered borderline offensive to some, but innovators tend to see great results by questioning conventional systems and beliefs. The participants described a desire to

question the status quo as Participant 2 explains, “I don’t understand the mindset of ‘no matter what, my view’s going to be this way’. Why not question that?”

As the literature research shows, questions alone do not typically serve to inspire innovation; rather, questions combined with thoughtful observation are more effective (Dyer et al., 2011). The more that an individual uses multiple senses, the more likely learning and processing is to occur, and this learning to lead to new insights or breakthroughs. Innovators tend to spend time observing people and various environments. Participant 8 described her tendency to observe problems and come up with creative ways to solve them, “I always have a pulse on things and I can’t help but pick up on things. If there’s a problem I will naturally try to solve it.”

Participant 11 explained how her style of networking differs from traditional networking, much like the research described,

I won’t network for the sake of networking. I network in a nontraditional way. I made 3 new friends in one night. I just begin talking to people and learning from them. Networking events aren’t organic and don’t inspire me the same way. I have walked away with new ideas from people. I walk away with new information and new experiences I draw upon oftentimes later on after the fact. I tend to take more time to be creative. People inspire me and ignite the creativity in me.

Innovators frequently engage in networking or social activities, but they do so in ways different than non-innovators (Dyer et al., 2011). In fact, innovators demonstrate nearly 80% proficiency in networking skills while non-innovators score under 50%. Oftentimes, people network to develop new connections to gain funding, business, promotions or other resources to advance a professional agenda. Innovators network to learn from others and to exchange ideas in addition to gaining resources.

Innovators often experiment to assess the viability of their ideas and find answers to their what if questions, saving time, money and other resources by often first engaging in observing, networking and questioning before experimenting. Of the four types of innovators—start-up

entrepreneurs, corporate entrepreneurs, product innovators, and process innovators—product innovators and start-up entrepreneurs have more developed and inherent experimentation skills (Dyer et al., 2011). A software startup entrepreneur described his philosophy on experimentation,

How does someone get good at what they're supposed to do without experimenting? It boggles my mind that people don't learn in a more hands on way. I don't get the classroom learner. If you work on something it will start to fit. My primary experimenting in work has been hands on experiments with clients... You iterate, distill and then bring it back to something concrete. People sometimes struggle with ending the tweaking.

**Questioning is used with greater frequency than the other behaviors.** When asked which behaviors were used most frequently, 9 out of 12 participants included questioning as part of their response. Questioning was cited as part of the idea generation process. Questioning was also referenced as a critical component used in further developing and testing innovations.

Participant 3—an technology entrepreneur—explained the centrality of questioning for him as not just a business or innovation behavior, but a life philosophy,

Definitely questioning. The one question is why? We'd have a much better planet if people just asked the question why. People often want to jump in as knowing something already instead of discovering a new way. I can't stand the status quo. Who wants to be and think like everyone else? That's boring and stifles creativity.

The literature described associating as the most important behavior when it comes to innovation. Associating—much like intuition—can be challenging to put into words. This might explain why while each participant expressed that they use associating, it could be so intrinsic to how they think and process information, that it was easier to describe more tangible behaviors like questioning.

**Partnering with a team is critical to the business.** The majority of participants described working with a team at varying points in the innovation process. For example, some preferred to brainstorm with a team when generating initial ideas. Others mentioned working

with a team to implement the innovation. Some referenced working with a team to further develop or improve the innovation. Regardless, the theme of working with others was prevalent.

Participant 4 explained how working with others kept him enthused about the project,

For me to innovate, I need to be completely excited by the project, and that just doesn't happen all the time. However, there are many ways that I can get that energy and stimulation. Working with others can keep the excitement up.

While both intrapreneurial and entrepreneurial participants described a desire to work with and interact with others to deed creativity. Hisrich and Peters (2002) posit that while both intrapreneurs and entrepreneurs exhibit passion for pursuing dreams, intrapreneurs are more likely to leverage the work and help of coworkers to bring a vision to fruition. Unlike entrepreneurs, intrapreneurs must focus on serving project sponsors in addition to self and customers. Both tend to use transactions and deal-making when influencing through relationships with intrapreneurs operating within a hierarchy. Both intrapreneurs and entrepreneurs who participated in this study stressed the importance of working with others.

**ENXP entrepreneurs and intrapreneurs experience a constant focus on external improvement.** Whether the entrepreneur or intrapreneur was focused on how to make the world better for others, or how to improve a specific component of their business or product, the majority of participants described a strong desire to improve things that were external to them. This topic was not addressed in the literature review directly, but could be tied to how the locus of control manifests externally for entrepreneurs and intrapreneurs. Instead of describing a focus on personal improvement or challenge as a motivator for innovation, the participants described the desire to improve external factors such as the quality of life for others, the convenience of product use, or the health of the business. Participant 10 explained how she created her business



concept based on a desire to help others who cannot afford expensive financial services to not end up in financial ruin,

How it played out was looking at the financial sector. Are people just as in the dark as they were in 2008? People know no more today than they did in 2008. When I say people, I'm talking about the masses. 55% of people who are middle class know no more than they did in the past. How vulnerable are we to being set back again? Time is no longer on my side. I used all that questioning to create this business designed to help others get their life back.

Participant 4 described his motivation to help students navigate post high school endeavors,

I developed a program that would assist students in their post high school endeavors. This included education, careers, and personal goals. The program is unique in that it services a broad range of students regardless of their plans post high school. Additionally, the program was to be presented in a way that allows schools to scale the information and make it available to all students.

## **Implications**

This study involved 12 ENXP entrepreneur and intrapreneur participants in innovation-focused roles in various industries across the United States. The interviews provided a window into the participants' experiences with innovation to learn how they experience innovation. After a thorough analysis of the findings, implications were established with the goal of providing potentially helpful insight into how to support and position ENXPs in an organization to maximize organizational innovation.

**Organizations should use personality assessments and behaviors to foster innovation.** Most organizations have treated innovation as an organizational construct. Based on the findings of this study, they should treat innovation as personal trait that is malleable as well. Innovative behaviors such as observing, experimenting, networking, questioning, and associating are discernable by human resources leaders and can be developed and practiced at the individual level. Organizational innovation can be improved by better positioning employees based on individual innovation patterns and personality types. While many organizations focus on

developing a culture of innovation within their organization, they may benefit more from assessing their current employee base and repositioning team members accordingly.

**ENXPs naturally exhibit innovative behaviors and should be developed and positioned accordingly.** While it may seem obvious, those who gravitate to entrepreneur or intrapreneur roles are likely to exhibit the five innovation behaviors. Several participants expressed sentiments related to the observation that all five behaviors are necessary ingredients for innovation success and that the five are used interchangeably. As Participant 3 points out, “In any business or company if you don’t have all five of those things the business will not be successful. It’s all five of those behaviors that are required for a business to be successful.” MBTI could be administered early on with high school students to help promote entrepreneurial programs and opportunities.

**Intrapreneurial units should be properly staffed to support extraverted leaders.**

While it is certainly true that innovation focused roles can be successfully filled by introverts, ENXPs are likely to gravitate towards these roles. If they are hired on for the job, it is important that they are supported by and with a team. Many participants emphasized the importance of partnering with a team to achieve results. While some organizations hire innovation officers who have solo operations and are tasked with working across departmental lines, it may be of greater value to ensure that innovation-focused roles are supported with dedicated teams. As Participant 5 explains,

In my experience, you need a team in order to push a new idea. Sometimes it takes several respectable people just to convince others that your project is important and feasible. Additionally, it takes a unique team in order to take the idea from concept to completion. Some people bring on team members for their experience alone, but that is not enough. You need smart people that actually care and see the vision. You need every team member to have the ability to stand up and pitch the idea if necessary.

Most of the innovation success stories shared by participants included a reference to the value of the team in the innovation process. Organizations can use this knowledge to create collaborative innovation teams that work together to develop new products, business models, markets, managerial and process innovations.

### **Limitations**

The study aimed to explore the lived experience of organizational innovation among extroverted intuitive perceiving (ENXPs) entrepreneurs and leaders in innovation focused roles (intrapreneurs). Rather than employing a random sampling strategy, the researcher used a criterion-based purposive sample of participants from her network to ensure that the specificity of the subject was achieved. As a result, the lived experiences of innovation for all ENXPs in the United States are not represented in this study. Rather, the data collected represents the experiences of 12 participants.

For this study, participants were asked to recount their experiences with innovation, the process by which they innovate and examples of past and current innovative entrepreneurial and intrapreneurial experiences. It is always conceivable that relevant information was forgotten due to the limitation of the human memory. It is also plausible that interpretations of the events and processes will vary in the future. Consequently, the participant thoughts and recollections captured in this study are limited to only the period when the interviews took place.

### **Recommendations**

Innovation is critical to economic development and organizational success. Companies constantly seek to improve their organization's ability to innovate and progress. The findings of this research can provide organizations with ideas for assessing and developing their current employee base. The findings can also help ENXPs become more self-aware. It is also true that

the study of innovation is constantly evolving and represents an opportunity for further research. The findings of this study might constitute a basis for future reach. The following recommendations might serve to guide this pursuit:

- This study involved interviews with 12 participants. A larger sample size might yield results more representative of the ENXP entrepreneurial and intrapreneurial community.
- This phenomenological qualitative study represented a very specific focus. A quantitative approach exploring the relationship between personality type and the five innovative behaviors could reveal new insight.
- This study included equal participant participation from males and females. Future research could focus more on one specific gender.

## **Conclusion**

The purpose of this study was to explore the lived experience of organizational innovation among extroverted intuitive perceiving (ENXPs) entrepreneurs and leaders in innovation focused roles (intrapreneurs). This qualitative study yielded valuable insight into the innovation patterns, perspectives and outputs of entrepreneurs and intrapreneurs. The innovation experiences of the participants have been used by them to create, inform and guide past and current business practices towards sustaining innovation. In Chapter 2, an exploration of the major theories behind innovation, innovative behaviors, temperament theory, personality and learning came together to form the theoretical framework of this study.

Twelve individuals were selected who met the study criteria. Inclusion criteria for participation in the study included: (a) ability to confirm a personal MBTI type that is either ENFP or ENTP; (b) had ever run an intrapreneurial department for at least three years with at

least one direct report or had ever owned a business for at least three years with at least one direct report and (c) had at least three years of experience relying on innovation as a primary sustaining factor for their business or department. In person, phone, and email interviews were conducted with each participant and seven open-ended interview questions were posed by the researcher and addressed by the interviewees.

After the interviews were completed and the data was collected, coding was used to analyze the data and identify significant statements. Significant statements were then organized into themes. The study yielded the following themes: (a) Impact of people on the innovation process; (b) Experience of learning and synthesizing information to innovate. (c) The impact of spontaneous living on organizational innovation. (d) Innovation is initiated and developed using each of the five behaviors. (e) Questioning is used with greater frequency than the other behaviors; (f) Partnering with a team is critical to the business; and (g) ENXP entrepreneurs and intrapreneurs experience a constant focus on external improvement.

This study suggests that ENXPs experience innovation in three primary ways: the influence of people, the experience of learning to create new models, and the importance of unstructured living on innovation. ENXPs interact with people to brainstorm new ideas for innovation as well as to further development existing models. Participants use intuition, extraversion and associating to process new information and use this learning to innovate. Interviewees use unstructured lifestyles and work environments to foster creativity and innovate without restrictions.

Of the five behaviors linked to innovation: observing, experimenting, networking, questioning and associating, all five of the innovation behaviors were frequently used among participants to foster innovation. Innovation is initiated and developed using each of the five

behaviors. The ENXP entrepreneurs and intrapreneurs placed a strong emphasis on questioning above all of the five behaviors, using questioning to begin and fuel the innovation process. As extraverts, the participants strongly valued partnering with a team to drive success for the business. They used team feedback and participation to develop and improve innovations. ENXP entrepreneurs and intrapreneurs are motivated by and experience a constant focus on external improvement whether it is to better the world, a business model, or a client experience, ENXPs were more likely to focus on external rather than internal (or self-focused) improvements.

Personality type provides a window into the way an individual is energized, processes information, makes decisions and prefers to structure their lives. Using personality to explore innovation was the focus of this study. This study found that innovative behaviors and practices are core to a particular personality type. To best use this information, organizations and individuals need to explore assessments and job placement opportunities. Using this approach, they would likely improve job satisfaction, productivity and organizational success through increased innovation.

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## APPENDIX A

### Statement of Bracketing

I was raised by two public educators: my father was a community college faculty senate president and then administrator and my mother was a teacher who was promoted to a principal position in the latter half of her career. My parents taught me a great deal about education, including the politics, the complex dynamics factoring into student success, and instilled in me concepts regarding what innovation might look like within the education sector. While I often consider my childhood to have been an extended externship for education, I was largely unexposed to the corporate world and the culture and philosophies of entrepreneurship. In particular, the concept of “failing forward” so often promoted in the entrepreneurship world, was not something I was taught growing up; I was encouraged to pursue stability.

In retrospect, I do see more exposure to intrapreneurship. My mother launched an innovative program that earned her Arizona’s Principal of the Year award in the 90’s for requesting that businesses donate old computers to be used by low-income students to explore technology for the first time. In most positions I have held, I tend to find myself in intrapreneurial roles driving innovation and pressing against a status quo culture. In my present leadership role working with a corporate community college, part of our institution oversees an entrepreneurial center and I have been inspired by the innovation and creativity of the businesses that incubate in our facility.

As an ENFP and intrapreneur, I have a vested interest in this study. I have seen, anecdotally, ENXP acquaintances often end up in innovation-focused roles. As an ENFP, I experience firsthand the appeal of positions that allow me to be creative. My ENXP acquaintances are also in similar roles and desire positions and pursuits that allow them to



innovate and push boundaries. I went into this study aware of the observed innovation of ENXPs in my life.

## APPENDIX B

## Recruitment Script

Dear [Name],

My name is Brianna Bendotti and I am a doctoral student in the Organizational Leadership program at Pepperdine University. I am conducting a research study examining personality and innovation, and you are invited to participate in the study. If you agree, you are invited to participate in the interview process to gather the innovation experiences of ENXP entrepreneurs and intrapreneurs.

The interview is anticipated to take no more than 90 minutes to complete and the interview can be audio-taped, unless you prefer the researcher takes notes instead, or gathers your responses via email.

Participation in this study is voluntary. Your identity as a participant will remain confidential during and after the study through the use of pseudonyms.

If you have questions or would like to participate, please contact me at

████████████████████ or ████████████████████

Thank you for your participation,

Brianna Bendotti  
Pepperdine University  
Doctoral Student

## APPENDIX C

### Informed Consent for Participation in Research Activities

#### The Influence of Personality on Innovation: A Phenomenological Study

You are invited to participate in a research study conducted by Brianna Bendotti and Eric Hamilton, Ph.D. at Pepperdine University, because you meet the eligibility criteria:

- a) ability to confirm a personal MBTI type that is either ENFP or ENTP
- b) have ever run an intrapreneurial department for at least 3 years with at least one direct report; or have ever owned a business for at least 3 years with at least one direct report; and
- c) have at least 3 years of experience relying on innovation as a primary sustaining factor for their business or department

Your participation is voluntary. You should read the information below, and ask questions about anything that you do not understand, before deciding whether to participate. Please take as much time as you need to read the consent form. You may also decide to discuss participation with your family or friends. If you decide to participate, you will be asked to sign this form. You will also be given a copy of this form for your records.

#### **PURPOSE OF THE STUDY**

The purpose of this study is to explore the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs, to discover how ENXPs experience observing, experimenting, networking, questioning and associating when innovating, and how ENXP entrepreneurs and intrapreneurs have applied innovation practices to their business. This research will help increase the body of knowledge regarding: (1) What is the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs; (2) How ENXPs experience observing, experimenting, networking, questioning and associating when innovating and (3) How have ENXP entrepreneurs and intrapreneurs apply innovation practices to their business.

#### **STUDY PROCEDURES**

You will be asked to participate in an interview will last approximately 60-90 minutes if you choose to volunteer to participate in this study. The interviews will be conducted as face-to-face, phone, or email interviews. A voice recorder may be used for face-to-face interviews and you may request that the principal researcher stop recording at any time during your interview. You will receive a transcript of your interview approximately one week after your interview. Please review the transcript and notify the principal researcher of any corrections you observe.

Should you prefer an alternative to a face-to-face interview, online communication tools (such as email or Skype) may be used to conduct interviews. The interview location and time will be coordinated based on your preference.

## **POTENTIAL RISKS AND DISCOMFORTS**

The potential and foreseeable risks associated with participation in this study include fatigue and boredom. You may experience discomfort related to recollecting past experiences. You may stop the interview process at any time. You may decline to answer any interview question you prefer. There is a chance that confidentiality could be compromised in all research. To minimize this risk, precautions will be taken. Participation in this research study is forbidden for subjects considered vulnerable (pregnant women, prisoners, and children).

## **POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY**

While there are no direct benefits to the study participants, there is an anticipated benefit to society which includes a contribution by participants to the body of knowledge related to personality and innovation.

## **CONFIDENTIALITY**

The records collected for this study will be confidential as far as permitted by law. However, if required to do so by law, it may be necessary to disclose information collected about you. Examples of the types of issues that would require me to break confidentiality are if disclosed any instances of child abuse and elder abuse. Pepperdine's University's Human Subjects Protection Program (HSPP) may also access the data collected. The HSPP occasionally reviews and monitors research studies to protect the rights and welfare of research subjects. Any identifiable information obtained in connection with this study will remain confidential. Your responses will be coded with a pseudonym and transcript data will be maintained separately. The audio-recordings will be destroyed once they have been transcribed. Interviews are recorded (if permitted by the participant) and/or transcribed by the researcher so the participant did not need to return completed instruments to the researcher, unless the participant preferred to email responses. When and if data will be collected via email, confidentiality will be protected by removing email addresses from data. Audio recordings will be destroyed after interviews are transcribed. After the interviews, the researcher will analyze transcripts of the interviews. Transcriptions will be kept for a minimum of 3 years after dissertation is completed.

The identifying information collected includes emails and names linked to emails via email addresses and email signatures. When data is collected via email, confidentiality will be protected by removing email addresses from data. The researcher will store the electronic data on a laptop that is secured through a password. The researcher will be the only one who has access to the data. Data will be destroyed after 3 years by deleting all files from the computer. For each type of data collected (audio file, electronic file, hard copy, transcriptions, etc.) information is included as to where it will be stored, how it will be kept secure (lock, password), who has access, when and how the data will be destroyed:

1. Audio file: will be stored on iphone until transported to a laptop, both secured with passwords, researcher only has access, destroyed once interview is transcribed.
2. Electronic file: will be stored on a laptop, secured with passwords, researcher only has access, destroyed 3 years after dissertation is complete.

3. Hard copy: The researcher plans to take notes on a laptop. Should written documents be used to take notes, all content will be converted to electronic files, researcher only has access. Destroyed via a shredder once transferred to electronic files.
4. Transcriptions: Files will be stored on a laptop, secured with passwords, researcher only has access, destroyed 3 years after dissertation is complete.

### **SUSPECTED NEGLECT OR ABUSE OF CHILDREN**

Under California law, the researcher(s) who may also be a mandated reporter will not maintain as confidential, information about known or reasonably suspected incidents of abuse or neglect of a child, dependent adult or elder, including, but not limited to, physical, sexual, emotional, and financial abuse or neglect. If any researcher has or is given such information, he or she is required to report this abuse to the proper authorities.

### **PARTICIPATION AND WITHDRAWAL**

Your participation is voluntary. Your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study.

### **ALTERNATIVES TO FULL PARTICIPATION**

The alternative to participation in the study is not participating or only completing the items for which you feel comfortable. Your relationship with your employer will not be affected whether you participate or not in this study.

### **EMERGENCY CARE AND COMPENSATION FOR INJURY**

If you are injured as a direct result of research procedures you will receive medical treatment; however, you or your insurance will be responsible for the cost. Pepperdine University does not provide any monetary compensation for injury

### **INVESTIGATOR'S CONTACT INFORMATION**

You understand that the investigator is willing to answer any inquiries you may have concerning the research herein described. You understand that you may contact Brianna Bendotti ( [REDACTED] ) or Dr. Eric Hamilton ( [REDACTED] ) if you have any other questions or concerns about this research.

### **RIGHTS OF RESEARCH PARTICIPANT – IRB CONTACT INFORMATION**

If you have questions, concerns or complaints about your rights as a research participant or research in general please contact Dr. Judy Ho, Chairperson of the Graduate & Professional Schools Institutional Review Board at Pepperdine University 6100 Center Drive Suite 500 Los Angeles, CA 90045, 310-568-5753 or gpirb@pepperdine.edu.

## APPENDIX D

## List of Interview Questions

1. *Interview Question 1:* How does being an extravert impact how you experience innovation and prefer to innovate?
2. *Interview Question 2:* How does being an intuitive impact how you experience innovation and prefer to innovate?
3. *Interview Question 3:* How does your perceiving function impact how you experience innovation and prefer to innovate?
4. *Interview Question 4:* How do the behaviors of observing, experimenting, networking, questioning and associating impact your innovation if at all?
5. *Interview Question 5:* Which behaviors do you tend to use most frequently when innovation emerges?
6. *Interview Question 6:* Think about a time when you were leading innovation, what did that look like? How would you describe the project?
7. *Interview Question 7:* What have your experiences been with applying product/process/market/managerial innovation to your business?

## APPENDIX E

## Expert Panelists' Biographies

A panel of three experts assessed the interview questions created for this study: Dr. Gene Giovannini, Ms. Christina Robinson and Ms. Nancy Boyer.

*Gene Giovannini, Ed.D.*

Dr. Giovannini earned a Doctor of Education in Community College Education at Virginia Polytechnic Institute and State University in Blacksburg, Virginia. Both a Bachelor of Science and Master of Education are in Business Education and both were earned at Bloomsburg University in Bloomsburg, Pennsylvania. Additional studies have been in Executive Education at the Wharton Institute for Research on Higher Education, University of Pennsylvania. Dr. Giovannini was the founder and CEO of the Center for Entrepreneurial Innovation for five years and is now the Chancellor for Tarrant County Community College District and has served as a community college president at various institutions across the United States for nearly 15 years. In his roles, he has oversight for intrapreneurial units and has started several private businesses as well. He has used MBTI as a tool to grow his teams for several years.

*Christina Robinson, Doctoral Candidate*

Ms. Robinson is the Chief Innovation Officer for the Lone Star College System. Robinson is a forward-thinking senior executive with over 18 years of achievement setting growth-based operations strategies and solving service delivery problems at premier private education organizations and recruiting services firms. Robinson has a proven record of intrapreneurial success driving both local and regional business development efforts to aggressive P&L expectations—with direct experience facilitating branding and marketing efforts and executing billboard, radio, and TV buys for organizations like Apollo Group. Robinson has used type theory and assessments to maximize the performance of her teams. Robinson holds a Master's Degree in organizational management and is a doctoral candidate at the Roueche Graduate Program at National American University.

*Nancy Boyer, MBA*

With experience and education in coaching, performance management, and servant leadership, Ms. Boyer has worked as a leader in human resources and organizational development for nearly 20 years. In her work, Boyer has partnered with leaders of Fortune 500 companies to help guide them to their solutions. Boyer is also a Teacher Assistant for Erickson International and Performance Coach and is certified to teach Situational Leadership II, Situational Team Leadership and Situational Leadership Experience through Ken Blanchard, Speed of Trust by Franklin Covey and many courses with DDI. Nancy specializes in Organizational Development and Effectiveness and has experience using personality profiling tools like DISC and MBTI. She has experience in Talent Management, Performance Management, Recruitment, Diversity and Inclusion and Leading in Engaging Organizations. Nancy has a Bachelor of Science in Business Management and a MBA/Global Management from the University of Phoenix.

APPENDIX F  
IRB Approval Letter



Pepperdine University  
24255 Pacific Coast Highway  
Malibu, CA 90263  
TEL: 310-506-4000

**NOTICE OF APPROVAL FOR HUMAN RESEARCH**

Date: August 30, 2016

Protocol Investigator Name: Brianna Bendotti

Protocol #: 16-07-326

Project Title: THE INFLUENCE OF PERSONALITY ON INNOVATION: A PHENOMENOLOGICAL STUDY

School: Graduate School of Education and Psychology

Dear Brianna Bendotti:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframes in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at [community.pepperdine.edu/irb](http://community.pepperdine.edu/irb).

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chairperson

cc: Dr. Lee Katz, Vice Provost for Research and Strategic Initiatives



## APPENDIX G

### Interview Protocol

**Study Purpose:** The purpose of this study is to explore the lived experience of organizational innovation among extroverted intuitive perceiving (ENXP) entrepreneurs and intrapreneurs, to determine how ENXPs experience observing, experimenting, networking, questioning and associating when innovating, and how ENXP entrepreneurs and intrapreneurs have applied innovation practices to their business.

For the purpose of this study, the variable of organizational innovation is defined as process, product, market, or managerial innovation and innovations of each type are to lead to increased profits or cost savings.

The interview will last for approximately 60-90 minutes and will include 7 open-ended interview questions. Please feel free to ask questions or seek clarification at any point in the interview. Please let me know if any questions come to mind before we begin.

The interview instrument [turn on recoding]

Conclusion [turn off recording]

This is the end of the interview. Thank you so much for your time and participation. I will send you a copy of the interview transcript for your review.