Summer 7-19-2019

Factors of Women-Founded High-Growth Technology Startup

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Factors of Women-Founded High-Growth Technology Startups

A Dissertation by

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Irvine, California

School of Education

Submitted in partial fulfillment of the requirements for the degree of

Doctor of Education in Organizational Leadership

July 2019

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ACKNOWLEDGEMENTS

I want to thank Spirit for being the source of my never-ending perseverance, path and purpose, and energy to get it done. I sincerely appreciate all my family, friends, colleagues, and mentors. I would like to thank my significant other who was infinitely patient and supportive throughout my master's degree with Brandman University and now my doctorate with Brandman University. From the day I signed up for this journey five years ago until now, you have been by my side.

I have much gratitude for my family, including my late Aunt Kim, whom taught me to never give up. She planted a belief seed inside of me that has grown everyday into immeasurable grit. My grandmother, Eleanor McKinley, always told me to just do it. The world has never seen a woman who did so much for her community, family, and friends as you, Mom Leigh. Thank you for being the person I want to be when I grow up. To my parents who, supported me with their positive attitude no matter what, and whose belief in me is second to none. Without them, my dreams of becoming a doctor would have been lost long ago. Lastly, to my brother and his family for their prayers and knowing it is the thought that counts. You are an amazing father and brother. I greatly appreciate you.

To my cohort members who were their every step of the way, Michael Brouillette, Miki Cabell, Dolores Gill, Corey Givens, and Kailani Quichocho. Thank you for being my greatest fans and assisting along the way with assignments and emotional support. You are tremendously supportive, gifted, generous, and strong. Dr. Hadden, thank you for being a committed cohort mentor who saw my potential and encouraged me along the way. Thank you for never letting me give up and always making me give it my all.

Thank you to the members at Center for Spiritual Living for your consistent prayer and encouragement. You are all a part of my journey through the trials and tribulations of this process, especially as I was building my own technology startup during this program. To my friend, confidant, and business partner of this startup JOOM 3D, Dr. Paul Tinari, thank for your unwavering wisdom and support.

Finally, I want to thank my dissertation chair, Dr. Jeffrey Lee. I could not have asked for a better chair. Your patience and understanding of the process was truly extraordinary. The countless hours of editing, expertise, and confidence in me helped me every step of this journey. Dr. Julia Hadden, you encouraged me from through my assignments, and always told me I could do it. Dr. Cindy Petersen, your like-minded passion for women in business encouraged and instilled in me the self-assurance to continue the quest for gender equity. Thank you to everyone else who helped make becoming a doctor unforgettable.

ABSTRACT

Factors of Women-Founded High-Growth Technology Startup

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Purpose: The purpose of this mixed-methods study was to identify and describe critical startup factors of high-growth technology startups as identified by women founders in Seattle, Washington.

Methodology: This mixed method study identified and described 15 women founders of high-growth technology startups in Seattle. Participants were chosen based on specific criteria and recommendations of a sponsor and expert panel. Interviews were conducted with the participants and they completed an online survey.

Findings: Ten major findings emerged from the data. Founders fostered a strong network of professional and personal relationships to help develop and solidify their identity; they also had high levels of emotional intelligence. The founders hired a team to fill their knowledge gaps to create a company with the potential to become high growth. Founders took financial responsibility by avoiding premature scaling, creating a company that is buyable and scalable, and using financial modeling techniques during this process. Additionally, female founders used male influence to be introduced to networks for investor funding. Lastly, the founders had previous experience in high-growth environments, helping them to strategically respond to investor questions.

Conclusions: Based on the research findings of this study, ten conclusions were drawn that created deeper insight into women founders of technology startups and factors that helped develop their high-growth startup in Seattle, Washington.

Recommendations: By identifying and describing the factors women founders of technology startups use to create high-growth technology startups in Seattle, Washington, more women-founded high-growth startups can be successful. These factors include building strong networks through new taskforces, creating emotional intelligence development plans, holding innovation and regulation symposiums, building strategic alliances with male allies, creating minimum viable products, promoting focused business plans, indexing technology investors, and featuring women founders on 20/20 and 60 minutes.

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CHAPTER I: INTRODUCTION

Creating a successful startup remains an uphill battle for women. A good example of this is Sheila, the CEO and founder from Turn It Around Corporation. She founded the company and has been the CEO for almost four years and is just starting to feel her head is above water. Sheila typically works 80-hour weeks and lost count of the number of investors she visited. Sheila got married five years ago and her family life was put on hold to focus on the company. She asked her husband when she started her business if he could wait to have kids until she was successful. Four years later, their marriage is on the brink of divorce and she hopes with this new influx of investment capital from a venture capitalist firm will allow her to hire staff and have more time to try and save her marriage.

Like Sheila, many women want the time and freedom to be with their families and think running their own business will help. Women entrepreneurs became important to research, especially in startups (Jennings & Brush, 2013; Nissan, Carrasco, & Castaño, 2012). One reason is women-managed startups are funded even less often and with less money compared to male-managed startups (Women Who Tech, 2018). Eighty-six percent of businesses funded by venture capital firms have no women in management and only 3% of venture-funded capital goes to women founders (Women Who Tech, 2018). For Sheila, this was the case. She met with over 80 angel investors, individuals who infuse capital into startups, and 20 venture capital companies, large firms that infuse capital into startups. Finally, four years later she was funded by her first investor and received needed money to continue her business and hopefully hire a few people so she can start her family.

Because of this investor, Sheila's company would become a high-growth startup. These startup companies help the United States economically. More high-growth startups need to be created to help stimulate the U.S. economy (World Economic Forum, 2014). The U.S. used to be an economic giant and create a gross domestic product (GDP) that surpassed the current rate of debt, but now debt is at an all-time high and more high-growth startups need to be created (Friedman & Mandelbaum, 2011).

Silicon Valley is the most successful region for these high-growth startups because it scores the highest in funding, performance, market research, talent, resource attraction, corporate involvement, founder ambition, strategy, and startup experience (Global Startup Ecosystem Report, 2017). The Global Startup Ecosystem Report (2017) used a year's worth of research spanning 10,000 startups and 300 partner companies to arrive at that decision. However, Sheila lives in Kansas City, which is not on the Global Ecosystem Report. This made it even harder as she lacked many opportunities available in other cities in the U.S.

The Global Startup Ecosystem Report (2017) highlighted six cities/areas as top for startups: New York City, Silicon Valley, Boston, Los Angeles, Chicago, and Seattle. Additionally, the report found California, Texas, and Florida had the highest rates of startups being formed (Global Startup Ecosystem Report, 2017). This is an issue because, "Only 0.91% of startups are funded by angel investors, and only 5% are funded by venture capitalists. In contrast, 57% of startups are funded by personal loans and credit, while 38% receive funding from family and friends" (Entrepreneur Magazine, 2013, p. 1).

Sheila was funded by friends and family for the first four years of her company. Few startups are funded outside the founder's circle of influence, and even less funding goes toward women-owned startups (Entrepreneur Magazine, 2013). Sheila put all her savings and her husband's savings into the company, along with another $50,000 from her parents and grandparents. For Sheila, the road of entrepreneurship was trying and difficult, and she almost quit many times. This was the impetus for conducting this study. Understanding how women-founded companies can become high-growth sooner is needed for the US to create more GDP and help women like Sheila. The background explores this in greater detail.

Background

Five sections are discussed to better understand how women-founded companies become high-growth startups. First, U.S. businesses are explored, and particularly startup company roles in the U.S. economy that create GDP. Second, the six different types of startups are described, including women's roles in these startups with a focus on high-growth technology startups. Third, a general overview of the framework for the female entrepreneurial index (FEI) of 2015 is explained. The fourth section describes the gap in the literature regarding this subject, and the fifth section explains why it is vital to study women founders of high-growth technology startups.

Businesses in the United States

Over 28 million businesses exist in the U.S. (Small Business Association [SBA], 2017). Most are grouped into either the small or large business category. To fully understand the success factors and barriers these companies face, the relationship between small and large businesses should be explored. The core mission of profit-

driven enterprises, whether small or large, is to make money and maximize value. The World Economic Forum (2014) stated, "This fundamental role of business has remained relatively constant over the years by providing goods and services people need or want" (para 2). However, they also went on to say, "What has changed dramatically over time are the expectations placed on businesses. Boards of directors, management, and investors of large corporations are now expected to address an array of social, economic, and ecological challenges" (World Economic Forum, 2014, para 2).

This change was driven from the need to create different types of GDP, employ more people, navigate new and innovative emerging markets, or greed (World Economic Forum, 2014). These new changes created the need for both small and large business because they create different types of GDP, employee different subsets of people, and work in different markets (World Economic Forum, 2014). This also created the need for startups because of these same reasons (SBA, 2017).

Startups in the U.S.

The term startup was initially coined during the technology boom. Startups may be small companies and not necessarily high-growth or high-impact when they are first created, but the role they play in the economy can be significant (Business Insider, 2017). Startups have a direct impact on the cities where they reside (Business Insider, 2017). They create jobs, which means more employment, an improved economy, and increased GDP. It is essential to understand small businesses and startups are different because of their size and annual revenue. Startups are considered under 500 people and make less than $5 million a year (SBA, 2017). Some startups in the U.S. are catching up to the size and revenue of some small and even large businesses after only a few years (SBA, 2017).

Examples of these are high-growth startups are in the technology industry (Business Insider, 2017). SBA (2017) identified five advantages to starting a business, whether it be a small business or a startup:

- Being one's own boss
- Accommodating an elected lifestyle
- Achieving financial independence
- Enjoying creative choice
- Using personal skills and knowledge

These five advantages aligned to Steve Blank's (2018) definition of startup companies, which are temporary organizations in search of a scalable and replicable business model. Prezm (2017) took this to another level and explained these companies started within the past five years and are a new venture with emerging services and products, creating businesses that grow quickly and aim to meet a marketplace need. This is developed by offering a disruptive, breakthrough, or sustainable innovative products, processes or services (Blank, 2018; Prezm, 2017; Reis, 2011). These companies are involved in the innovative process of designing and implementing the research, development, and validation of these new products and services for target markets. They are mainly in the technology sector (Blank, 2018; Prezm, 2017; Reis, 2011).

Today's startup role evolved to help increase GDP with 50% of GDP in the U.S. coming from startups and small businesses (FEI, 2015). Innovative startups are essential drivers of GDP in existing industries, especially technology (Aghion, Blundell, Griffith, Howitt, & Prantl, 2009). The U.S. GDP is of one of the highest in the world according to

the Female Entrepreneurial Index (2015), which shows the U.S. as the number one place for women to be successful entrepreneurs as well. Innovative startups helped women and minorities, as well as small businesses. Six different types of startups help create GDP: lifestyle entrepreneur, small business entrepreneur, scalable startups, buyable startups, large company startups, and social entrepreneurs (Blank, 2017).

Startup literature defined six types of startups. The lifestyle entrepreneur is an individual who wants to build a business by taking one of their hobbies and capitalizing on it, such as a coin collector who opens a coin shop or a kite surfer who gives lessons. SBA (2017) defined small business entrepreneurs as a hair salon or computer repair store with a maximum of 1,500 employees, which comprise 99.7% of all U.S. businesses representing 28 million companies. Blank (2017) defined scalable startups as businesses that can scale to more products, services, or locations. Blank (2017) also defined buyable startups are those created for the sole purpose of exiting by selling to an investor. Blank (2017) described many of these buyable startups as software application companies. The SBA (2017) defined large startups as having over1,500 employees. Finally, Blank (2017) found social entrepreneurs wanted to make a difference by solving community-based problems with microfinance institutions or educational programs. Of the six types high-growth startups, only buyable or scalable startups are considered high-growth because of the intent for rapid growth to scale or rapid acquisition by a larger company (Blank, 2017). Many factors impact these startups.

Factors impacting high-growth startups in the U.S. Many reports examined factors impacting startups. One of the most prominent was produced by Startup Genome (2017) called the 2017 Global Startup Ecosystem Report, which looked at 650 internet

startups; the report found nine critical factors for success in a startup, including founders driven by impact and passion, a willingness to adjust within the frame of the chosen path, patience and persistence, and balance of business knowledge with necessary technical expertise. These factors were categorized into four main areas: funding, personnel, founder strength, and location of startup (Lidow, 2014). All four areas are necessary for startup success.

Seattle high-growth technology startups. Seattle is home to some of the largest and most recognizable technology brands in the world, including Amazon and Microsoft. Attracting talent is key to creating success at high-growth technology startups, which is why many of their former employees go on to start their own companies (Peck, 2017). They have the talent, connections, and funding needed to create a success story. These startups are mainly in the technology sector, although they can collaborate with or serve larger companies. This environment creates a relaxed atmosphere open to collaboration with world-wide enterprises, venture capitalists, other tech startups, angel investors, and universities (Peck, 2017). These startups created a mecca for high-growth activity for both males and female founders.

Women's role in startups as founders. Although prior research showed the role of startups in business is essential to creating GDP, discovering women's roles as founders of these startups needs to be looked at in greater detail (Welsh, Kaciak, & Thongpapanl, 2016). Startup leadership, and specifically founding, was considered one of the hardest jobs to perform and succeed (Lidow, 2014). For high-growth startups, the founder is the technical guru, product developer, accountant, marketer, and financer.

Many startups fail because founders lack someone coaching them on how to prepare for the multitude of highs and lows that are typically experienced (Lidow, 2014).

Therefore, it is essential to understand what creates success and failure in women-founded startups. BCG (2018) ranked male- and female-founded startups participating in the MassChallenge program. Successful founders are ranked by how much money their company raised, their valuation, and how much press coverage they received (Business Insider, 2017). However, little research examined the factors that contributed to their rankings and success, especially for women-founded startups.

For women-founded startups, the numbers are staggering and all over the board. Some say women are leading in startup growth (Grasshopper, 2017) whereas others say they are not (Women Who Tech, 2015). As of 2016, 11.3 million businesses in the U.S. were owned by women (Grasshopper, 2017). These women-owned businesses employed almost nine million people and created $1.6 trillion in revenue. This created a need for these women-owned businesses to be studied, especially given since 2007, the number of women-owned companies increased by 45%. In comparison, general business growth increased by only 9% in the same period. Women-owned businesses are growing five times faster (Grasshopper, 2017). Therefore, knowing exactly what makes these companies successful is essential.

Critical factors for women founders of high-growth startups. High-growth, women-founded startups are few and far between, and need to be studied (Olugbola, 2017). Many factors contribute to these high-growth startups, as seen in studies conducted by BCG, MassChallenge, and Startup Genome, three of the leading organizations involved with startups.

BCG (2018) found that out of all the startups MassChallenge worked with, 42% had a female founder. The MassChallenge program takes startups from beginning to end to help them create success. BCG did a five-year study on the gender gap between male- and female-founded startups in the MassChallenge program and found the most significant factor was a funding gap between the two. This gap is one of the many identified barriers for women creating high-growth startups. BCG (2018) found three explanations for the funding gap that emerged during their study.

The first was that women founders were often asked more often than males to explain their technical skills, and they were often thought of as having fewer skills than men (BCG, 2018). Women founders also hesitated to answer directly to criticism. They often agreed with criticism whereas men disagreed with the criticism and explained why they disagreed (BCG, 2018). Women were also more conservative in their projections and asked for less funding than men (BCG, 2018; Fortune, 2018). More research is needed to identify the success factors of these women-founded high-growth startups and not just the barriers to funding (BCG, 2018).

Gaines (2011) described how counseling and training programs are needed to ensure women-founded businesses have an opportunity to succeed. Startup Genome (2012) also looked at what could be helpful in creating a success. The study looked at 3,200 high-growth startups in the web/mobile technology sector but focused on only the beginning of the startup journey, such as how to obtain funding or what training and education are needed. Understanding high-growth startup success throughout the whole process still needs to be explored (Startup Genome, 2012). It specifically needs to be researched for women-founded startups.

Theoretical Framework – Female Entrepreneurial Index 2015

The theoretical framework used to guide this study was the FEI (2015). The FEI was chosen because it was based on 300 studies from across the used to derive 15 indexed pillars needed to create success within a company. The FEI (2015) is a tool used for streamlining complex relationships and refining them into a final system of scoring for benchmarking improvement. It details the current situation in a country in comparison to other countries considering the conditions present to produce high-potential female entrepreneurship. Additionally, this specific index includes individual and institutional variables that resemble the micro and macro levels of entrepreneurship. Looking at both institutional and individual variables can help women founders create a high-growth startup because both data types are explored using three sub-indices of the index (FEI, 2015). The 15 pillars were used as the framework for this study to describe success factors specifically for women in startups.

The FEI (2105) includes three sub-indices: entrepreneurial eco-system, entrepreneurial environment, and entrepreneurial aspirations. Entrepreneurial eco-system looks at variables that create access to resources, such as partnering institutions and capital needed for women-founded businesses to succeed. Entrepreneurial environment concentrates on the essence and culture of the entrepreneur's economy and the presence of institutions that support entrepreneurial startups. The final sub-index, entrepreneurial aspirations, emphasizes individual characteristics and access to new products and technology needed for female entrepreneurs to thrive (FEI, 2015).

These three sub-indices represent the 15 pillars, and each pillar contains an institutional and individual variable related to the macro- and micro-level characteristics

of entrepreneurship. The FEI (2015) helps to understand the factors contributing to successful women-founded companies.

Statement of the Research Problem

Many studies looked at startup success and failure. According to Statistic Brain (2017), which looked at the failure rate of startup businesses by industry, the failure rate after five years of all U.S. companies was over 50% and over 70% after 10 years. This is an alarming number and could be impacted by knowing the success factors and barriers women founders and owners face within these high-growth startup companies (Statistic Brain, 2017). One issue is only 18% of startups are funded outside their current circle of influence (Entrepreneur Magazine, 2017). FEI (2015) stated other reasons such as lack of the right opportunity, lack of mentorship, and lack of creating new technology.

Reports like the FEI (2015) looked at women-founded companies, but not specifically startups. High-growth female startups are few in numbers and need to be studied more in-depth because of their high potential (Devarakonda, 2015; Gaines, 2011; Muron, 2017; Olugbola, 2017). U.S. women entrepreneurs who turn into successful founders needed the right factors, including funding, teammates, products, and services (Lidow, 2014). These critical startup factors help create high-growth startups.

By using the FEI (2015), this study sought to identify factors that led to high-growth technology startup success. Many studies looked at startup factors critical for success (Lidow, 2014; Olugbola, 2017). Some looked at women-founded startups (Devarakonda, 2015; Eken, 2017; Gaines, 2011; Lindell, 2016; Muron, 2017). However, a gap existed in research focused on high-growth, women-founded technology startups and the critical startup factors for success.

Purpose Statement

The purpose of this mixed-methods study was to identify and describe critical factors of high-growth technology startups as identified by women founders in Seattle, Washington.

Research Questions

This study was guided by one central research questions and three sub-questions. The central research question was: What are the critical factors of high-growth technology startups identified by women founders in Seattle, Washington? The three sub-questions were:

1. What are the critical startup factors related to entrepreneurial environment for high-growth technology startups as identified by women founders in Seattle?
2. What are the critical startup factors related to entrepreneurial eco-system for high-growth technology startups as identified by women founders in Seattle?
3. What are the critical startup factors related to entrepreneurial aspirations for high-growth technology startups as identified by women founders in Seattle?

Significance of the Problem

Women founders of startups continues to be a growing field of research. Women showed countless benefits they add to these organizations (FEI, 2015). This study addresses the growing trend of successful women-founded startup companies and the void in the literature. The findings related to critical factors could advise practitioners in the field of women-owned startups for best practices. Additionally, the findings on financial stability and best practices of women-led startups could be used by funding sources such as venture capitalists and angel investors. Research showed that normally,

greater levels of women's contribution in the labor force generated increased economic and social development in the U.S. (United Nations, 2013). Therefore, higher levels of female activity in entrepreneurship could lead to economic growth and stronger communities and business ecosystems (Terjesen & Amorós, 2010).

The lack of women in technology and venture capital became a problem because high-growth companies created the most GDP (Bloomberg, 2016). This research served a need in the market because of the lack of literature on why more women are not in the technology space. Research on high-growth startup companies, and further on the lived experiences of female entrepreneurs, could add to the knowledge and understanding on how success is achieved across the U.S. in high-growth startups (Olugbola, 2017).

Additionally, the findings from this study could be helpful for women-founders of those who would like to become founders. With only 17% of startups being woman-owned and only 50% of those lasting five years, knowing factors that make founders successful is important to growing these businesses (Robb, 2013). By using the FEI (2015) and interviewing women of successful high-growth startups, other women can use the findings to create successful high-growth startups.

Further, the findings on financial stability and best practices of women-led startups could be used by funding sources such as venture capitalists and angel investor. FEI (2015) stated without knowing another entrepreneur, finding the right opportunity and getting into a new technology were barriers for women entrepreneurs. This information is important for investors; offering them a better understanding of what factors create the high-growth startups informs where they invest. Other studies discussed women in small business startups, especially African American and other

minority women (Devarakonda, 2015; Eken, 2017; Gaines, 2011; Lindell, 2016; Muron, 2017). However, most of the research was about small businesses and not startups (Arvanitis & Stucki, 2012; Demir, Winnberg, & McKelvie, 2017). Therefore, studying high-growth women founders in technology startups was needed.

Definitions

This section provides operational definitions of terms relevant to this study. Although many of these terms have varying definitions in different contexts, the definitions below were used in this study.

Angel Investors. Affluent individuals who invest capital in startups in exchange for equity in the company or convertible debt.

Critical Startup Factors. A variety of factors that create success in a startup (Blank, 2017; Lidow, 2014).

Founders. Women who established one or more startup from conceptualization through operation.

Emotional Intelligence. The ability to identify and manage one's emotions, pick up on the emotions of others, and manage emotions to build trust and grow influence (Que, 2016).

High-Growth Startups. Startup companies with a world-wide or national scope of clientele (Statistic Brain, 2017).

High-Potential Women Founders. Women with the potential to create a successful startup according to the 15 pillars of the FEI (2015).

STEM Education. Interdisciplinary approach to learning academic concepts while coupling real-world lessons as students apply science, technology, engineering, and

mathematics in contexts that make connections between school, community, work, and the global enterprise enabling the development of solutions to world problems (Tsupros, Kohler, & Hallinen, 2009).

Startups. Companies in existence for less than 10 years (Atkinson & Wu, 2017).

Technology Startup. Companies in business for less than 10 years with fewer than 500 employees operating in the aerospace, computer and electronics, pharmaceutical, medical device, semiconductor, data processing, software publishing, or scientific research and development (R&D) industry (Atkinson & Wu, 2017).

Venture Capitalist. An investor who provides funds to startups or small businesses because they can earn a massive return on their investments if these companies are successful.

Delimitations

Delimitations are a part of a study controlled by the research by placing restrictions on the study (Simon, 2011). This study is delimited to Seattle, WA and specifically women founders of high-growth technology startups. The researcher narrowed the scope of the study using three factors:

1. Seattle, WA: This is the area in which the women founders must be located, including having an office space with employees.
2. High-Growth Startups: The startup was recognized as being high-growth by reaching many parts of the U.S. or spanning outside the U.S.
3. Technology-Driven Startup: These startups were driven by innovation in the technology sector.

Organization of the Study

Chapter I introduced the study, including the background, problem statement, research questions, problem significance, and delimitations. Chapter II explores the literature on women-founded startups and specifically high-growth startups. Chapter III describes the study methodology. Chapter IV presents the findings and Chapter V provides findings and conclusions, implications for action, and recommendations for future study.

CHAPTER II: REVIEW OF THE LITERATURE

Entrepreneurship is the cornerstone of American capitalism. The idea of free enterprise allows any citizen the right to start a business with only a few restrictions, such as monopolies and environmental requirements (SBA, 2017). The purpose of the study was to describe factors women founders find critical for high-growth startups. This review of literature is divided into five sections. First, businesses in the U.S., and particularly startup company roles in the U.S. economy are described. Second, women's roles in startups is discussed with a focus on high-growth startups. Third, a general overview of the framework for the Female Entrepreneurial Index (FEI) is explained. The fourth section describes the gap in the literature regarding this subject and the final section explains why it is vital to study factors critical for female founders of startups.

Businesses in the United States

The main mission of a for-profit enterprise is to make money and maximize value, not to fulfill a philanthropic duty. This central role of business stayed constant over the years because the goods and services people want and need are provided (World Economic Forum, 2014). However, the expectations placed on businesses changed dramatically overtime. Management, investors, and boards of directors of large corporations now address an assortment of economic, social, and ecological challenges. This change might be driven in part from the need to create different types of gross domestic product (GDP), employ more people, expand into new and innovative emerging markets, and in some cases, greed. These changes created the need for both small and large business because they create different types of GDP, employee different subsets of

people, and work in different types of markets (World Economic Forum, 2014). This has also created the need for startups because of these same reasons (SBA, 2017).

Over 28 million businesses exist in the U.S. (SBA, 2017). Most are grouped into either the small or large business category, with others being mid-sized or start-ups. To fully understand the success factors and barriers these companies face, the relationship between small and large businesses is explored.

Large Business

Large businesses are defined as mostly being in the mining and manufacturing industries and employ 500 plus individuals. If they do not manufacture goods but have an average of $7 million in receipts annually, they are also considered large businesses (SBA, 2017). Only 18,500 large businesses exist in the U.S. The largest company in the world, Walmart, employs nearly 2,300,000 people (Statista, 2016). Walmart, which is number one on the Fortune 500, created more than twice as much revenue as any other company on the list, but it does not make the top 10 when it comes to profits (Fortune, 2017). This is because different laws apply to large businesses. Size and type will determine if a company is eligible for federal programs and contracts (SBA, 2017). These factors are why people think most of the GDP in the U.S. comes from these large businesses, but that is incorrect information as the Walmart example shows. Therefore, small businesses are also needed.

Small Business

Small businesses are needed to create GDP (SBA, 2017). Small businesses are typically 500 employees or less (SBA, 2017). They are a vital contributor to the growth and wellbeing of several key areas of economic and socioeconomic growth. With over

28,000,000 U.S. small businesses, they produce about 50% of U.S. GDP (Collins, 2012; SBA, 2017). Guidance Financial (2016) stated it typically takes one year before a small business can even be started to ensure all steps are in place before the business launches. The steps in the first year include choosing the business or franchise, writing a business plan, and consulting with professionals such as an accountant and lawyer. Six to nine months prior to opening, funding needs to be secured for the business, business bank accounts must be setup, location and permits must be obtained, and a business license and entity type must get filed. Within three to six months of opening, the location must be setup, a team hired, and marketing started. Most businesses fail either at setting up the finances or launch too soon without completing all steps (SBA, 2017). According to the U.S. Bureau of Labor Statistics (2017) almost 20% of small businesses fail within their first year, and almost 50% fail within five years. However, together small businesses and large businesses help with the welfare of the U.S. and intersect in three different areas (Collins, 2012).

Similarities between Large and Small Businesses

Despite differences in size and profit, large and small businesses intersect in three main areas. They both spark needed innovation, create meaningful jobs, and provide opportunities for women and minorities.

Spark needed innovation. The U.S. market developed many large and small businesses working to create a vision first, which leads to an innovative idea for a new or improved product or service. According to Satell (2017), four main kinds of innovation are used in both large and small businesses:

1. **Sustaining Innovation**. Using an existing technology and repurposing it for a new use
2. **Disruptive Innovation**. Novel scientific discoveries
3. **Basic Innovation**. An existing product or service brought to a new location or set of underserved customers
4. **Breakthrough Innovation**. A new business revealing previously unseen value

The first type of innovation, which is most natural to accomplish, is sustaining innovation where small improvements to existing products and services are developed (Satell, 2017). An example of this is software that needs continual improvements, or a new car model released each year. Disruptive innovation is harder to accomplish but can create sustainable sources of growth resulting in larger GDP and return on investment (Satell, 2017). Businesses working on disruptive innovations are riskier, but when successful tend to create a higher profit, such as the cryptocurrency markets in which many made millions in a short time and 3D printing that is revolutionizing manufacturing.

Basic innovation is merely taking the same product or service and expanding the locations or selling to a new customer base (SBA, 2017). This would be like a computer repair store opening second location under the same name but in a different city. Breakthrough innovations involve the development of a new product or service, or a great improvement in an existing product that creates more value or a better offering (Satell, 2017). This could be an improvement to a cell phone that creates a new version by having a better camera, faster speeds, and new features (Satell, 2017). The last aspect that small and large businesses bring to the marketplace is providing opportunity.

Small businesses help big companies by supplying them with services or components for their business. Small businesses provide services such as accounting, legal, marketing, and insurance (SBA, 2017). Small businesses may also create components for large companies, and even become large businesses by finding a niche market that becomes popular. These small businesses hire themselves out by providing services to help with special projects or handle specific business functions for the large companies. These types of services could help a small business to grow fast and reach large business status if they can offer their services nationwide or overseas (SBA, 2017). Through innovation, small businesses can grow into large businesses.

Creating meaningful jobs. Large and small businesses create meaningful jobs. Small businesses usually promote environments that attract individuals with the talent needed to invent new products or improve the status quo, whereas many large businesses define for their employees how to do the job with less autonomy (SBA, 2017). The jobs created by small businesses alone was over 2,000,000 in 2015 (Census Bureau, 2015), which pales in comparison to the 1,500,000 Walmart employs in the U.S. alone, but both large and small businesses are needed for job creation.

The U.S. recently enjoyed a record-breaking streak in job creation. The latest data showed that in July 2018, 219,000 jobs were created, which marked the 94th straight month of job growth and beat analyst expectations of an additional 185,000 new jobs in July 2018 (Forbes, 2018). Since the great recession in 2008, 8.3 million jobs were created by small businesses (SBA, 2018). In contrast, 5.1 million jobs were created by private-sector large businesses since 2008 (SBA, 2018). Therefore, both small and large businesses are needed to grow the U.S. economy.

Opportunities for women and minorities. Arguably, one of the most important parts of small and large businesses in the U.S. is they create unlimited opportunities for women and minorities often not be available to them in other countries (SBA, 2018). Owning small businesses allow women and minorities to be their own boss and create their own schedule. Also, the ability to decide whom they work with is another plus. In some industries, the earning potential of small businesses is unlimited (SBA, 2018). Although starting a small business if a great model for women and minorities, barriers remain many boundaries still restrict these two groups from owning or working in a small business. For example, in the first quarter of 2018, women led startups received only 3% of venture capital funding (Teare, 2018). Startups led by women and minorities need funding to grow over time into large companies, get acquired, or merge with another company, which is the primary goal of many of these types of companies (Teare, 2018).

Startups in the US

The term startup was initially coined during the technology boom. Startups may be small companies and not necessarily high-growth or high-impact in the beginning but can play an important role in the growth of the economy (Business Insider, 2017). They create jobs, which means more employment, an improved economy, and increased GDP. They directly impact the cities they call home (Business Insider, 2017).

Blank's (2017) definition of a startup is an impermanent organization looking for a scalable business model that can be replicated. Prezm (2017) explained startups as companies started within the past five years that are entrepreneurial and typically emerged in a fast-growing marketplace aimed to meet a marketplace need. This was accomplished by offering a disruptive, breakthrough, or innovative product, process, or

service (Blank, 2017; Prezm, 2017; Reis, 2011). Startups typically do not engage in basic innovation, which is one of the main differences between them and small businesses. Startups are typically involved in the design and implementation of innovative processes of research, development, and validation of target markets mainly in the technology sector (Blank, 2017; Prezm, 2017; Reis, 2011).

New small businesses are not considered startups as the two differ in their size and annual revenue. Some startups in the U.S. are catching up to the size and revenue of some of large businesses only after a few years (SBA, 2017). Startups with such potential are referred to as high-growth startups.

Today's startup role evolved to help increase GDP with 50% of GDP in the U.S. coming from startups and small businesses (FEI, 2015). Innovative startups are essential drivers of GDP in existing industries, especially technology (Aghion et al., 2009). The U.S. GDP is of one of the highest in the world according to the FEI (2015), which showed the U.S. as the number one place for women to be a successful founder. Startups were further differentiated into six main types.

Six Types of Entrepreneurial Startups

To fully understand factors of success, barriers, and challenges founders of startups faced, it is essential to investigate the literature about the six different types of startups defined by Blank (2017).

1. **Lifestyle Entrepreneur**: Lifestyle entrepreneurs are people with a passion, such as surfing, who turn that passion into a small business by starting a surf shop or offering surfing lessons. These small businesses allow them to pay

the bills and engage in their passion more often. Lifestyle entrepreneurs work for themselves and their passion (Blank, 2017).

2. **Small Business Entrepreneur**: Small business entrepreneurs open specialized stores or run businesses out of their home related to their craft. These would include hairdressers, consultants, personal trainers, travel agents, seamstresses, plumbers, mechanics, and electricians, or anyone who operates his or her own business with few if any employees beyond family. Most small businesses make little profit, are not scalable, and are designed to support the owner's family. Most are barely profitable (Blank, 2017).
3. **Scalable Startups**: Scalable startups grow from a vision of changing the world. Companies such as Google, Amazon, Facebook, and Uber began as scalable startups. In contrast to small business entrepreneurs, scalable startups want to create equity to become publicly traded companies with million-dollar paydays (Blank, 2017).
4. **Buyable Startups**: Buyable startups recently emerged as web and mobile apps hope to be acquired by larger companies. As creating these new technology products became less expensive and less time-consuming, the number of buyable startups grew as small investors hoped for large payoffs. Buyable startups are not looking to build a large business, but rather be bought for several million dollars (Blank, 2017).
5. **Large Company Startups**: Large companies typically have finite lifecycles without evolving to marketplace changes. Many began by offering new products and fulfilling a societal need. However, advancing technology,

changing styles, legislation, and growing numbers of competitors pressure even large company startups to venture into new products and markets to sustain their business (Blank, 2017).

6. **Social Entrepreneurs**: Social entrepreneurs are ambitious individuals driven by making the world a better place. Their desire is often not wealth or selling their business for profit but building positive change. These entrepreneurs often start nonprofit of hybrid organizations (Blank, 2017).

Founders can start a company that falls within any of these six types (Blank, 2017). However, this study focused on high-growth startups, which typically fall into the buyable or scalable type of company. These are the only two types that constitute a high-growth startup and the factors (Blank, 2017). As such, these two types are described in further detail.

High-growth buyable startup. A buyable startup is for the entrepreneur who loves making money, then reinvests earnings into another business to make more money (Blank, 2017). Many breakthrough innovations create buyable startups, such as companies that involve web and application development. Buyable startups begin with little capital, then they are developed and sold off to large companies when their value appreciate. These types of entrepreneurs can walk away with thousands or even millions of dollars, but rarely reach the billion-dollar mark (Blank, 2017).

High-growth scalable startup. Many high-growth scalable startups begin with a common internet platform that provides people with a way to exchange ideas and communicate, such as Facebook, Twitter, and Google. These startups founders believed a day would come when the business would thrive and become a large company (Blank,

2017). Founders of scalable startups do not just start them to make money, but also to make a difference in the world. Their hope is wealthy investors will appreciate the potential of their businesses and invest in the company. The ideas with which these startups are formed are usually found in emerging markets like 3D printing, cryptocurrency, and new types of energy that are all disruptive innovations (Blank, 2017). These companies tend to be in the technology sector and are high growth. It takes a founder who is an entrepreneur, not just a manager or leader, to be a success with these types of ventures (Reis, 2011). Disruptive technologies are created by founders ready for uncertainty and risk. Founders of scalable startups create a culture and system to move and innovate at the speed of the experimentation system (Blank, 2017). Many of these startups are in the technology sector.

High-growth technology startups. Many scalable or buyable startups are in the technology sector, which is comprised of manufacturing companies such as Apple and Microsoft and mostly online technology companies such as Amazon and Cisco (Forbes, 2018). Technology-based startups grew 47% in the last 10 years. Although these businesses still account for a relatively small share of all businesses at only 3.8%, they have bigger impact on economic growth and the U.S. GDP (Forbes, 2018). They provide jobs that pay more, offer jobs last longer than other startups, and contribute more to productive, innovative, and competitive markets (Atkinson & Wu, 2017). The 10 technology-based industries according to Atkinson and Wu (2017) are:

1. Aerospace Products and Parts
2. Computer and Electronics
3. Pharmaceuticals and Medicine

4. Medical Devices
5. Semiconductor Components
6. Semiconductor Machinery
7. Computer Systems and Design
8. Data Processing
9. Software Publishing
10. Scientific Research and Development (R&D)

These technology-based companies' contributions to the economy are much larger than other types of startups (Atkinson & Wu, 2017). Their share of business R&D investment is 70.1%, R&D jobs 58.7%, and exports 27.2% compared to that of other industries. Technology based startups also employ 1.5 million people (Atkinson & Wu, 2017).

Technology-based startups have been a long-time driver of America's economic growth and competitiveness. They provide large contributions to employment, innovation of products, exporting of goods, and productivity growth (Atkinson & Wu, 2017). In contrast, many non-tech-based owners have no intention to grow beyond a few employees, average lower productivity and pay than technology-based startups, and serve local industries such as dry cleaning or hair salons. Small businesses create few jobs whereas high-growth startups have potential to employ hundreds after several years (Atkinson & Wu, 2017).

Technology-based startups pay three times what other industries pay and more than twice the national median wage (Atkinson & Wu, 2017). Although creating up to five indirect jobs in other industries, they invest heavily in R&D and focus on

international trade. These firms also have higher survival rates; 78% of new technology-based firms survived in the first year and 41% survived through the fifth year (Atkinson & Wu, 2017). However, recently both first- and fifth-year survival rates decreased, highlighting the importance of understanding factors that impact their growth.

Critical Factors that Impact High-Growth Technology Startups

Many reports examined factors impacting startups. One of the most prominent was produced by Startup Genome (2017) called the *2017 Global Startup Ecosystem Report*, which looked at 650 internet startups; the report found nine critical factors for success in a startup:

1. Founders driven by impact and passion
2. Commitment to the chosen path
3. Willingness to adjust within the frame of the chosen path
4. Patience and persistence
5. Observation, listening, and learning
6. Mentoring relationships
7. General and business knowledge
8. Lean startup with sufficient funding to reach key milestones
9. Balance of business knowledge with necessary technical expertise

In addition to these nine key factors, four additional factors were noted as essential for high-growth technology startups: funding, impact of the key personnel, founders' entrepreneurial skills, and city where the startup is located (Lidow, 2014). These factors are essential for startups and directly relate to available funding.

Impact of funding on high-growth technology startups. The context in which innovation happens leading to startups is an important factor as most startups are intended to confront times of extreme uncertainty that creates funding issues (Reis, 2011). Funding and contextual issues impact startup success. This is a key difference between a small business and high-growth startup. Simple bank loans can finance small businesses because the level of risk and uncertainty is known given the business model, pricing structure, and targeted customers most small businesses use as a framework (SBA, 2017). A major reason many startups fail is because they cannot get funding for such a risky, uncertain business (Reis, 2011). In conjunction with the two different types of innovation, breakthrough innovation tends to be easier to fund than disruptive innovation (Reis, 2011).

The SBA loans $50 million per day to U.S. based small businesses. SBA (2015) suggested starting with a business plan, which "is an essential roadmap for business success. This living document generally projects 3–5 years ahead and outlines the route a company intends to take to grow revenues" (SBA, 2015, p. 1). They advise business plans should include details about management, funding, vision and mission, product lines, financial projections, marketing, and sales (SBA, 2015). Any new company should have a business plan to guide the process and to share with potential investors. Although this information is a good start, it does not guarantee funding for a startup, especially in either a breakthrough or disruptive market, and the lack of funding is a significant contributor to business failure (Blank, 2017; Reis, 2011). Most startups (82%) get funding from the founder or through family and friends (Mansfield, 2018). Coupled with this, 82% of businesses fail because of cash flow problems (Fundera, 2016). A survey

from the SBA found 27% of businesses claimed they did not receive the funding they needed (Fundera, 2016). Therefore, funding is a significant factor in a successful high-growth startup.

Impact of key personnel on high-growth technology startups. Studies showed the importance of having two founders instead of one. This significantly increased the startup's chances of success as they raised 30% more in initial funding, were 19% less likely to move to scale prematurely, and grew at a rate three times higher that startups with a single founder (Mansfield, 2018).

Startups need six key personnel to impact success (Vozza, 2014). The first is referred to as the *Prima Dona Genius* who asks for things others are unsure of how to complete and challenges the team daily. The second is the *Superstar* who gets down to business and completes many tasks. The *Leader* is the person running the company who makes the hard and fast decisions. The *Industry Veteran* knows the field and how everyone else does it and has an extensive network to draw upon as needed. Fifth is the *Sales Animal* who helps minimize risk and closes the necessary sales for the startup to gain needed funding. The last person is the *Financial Suit* who which with necessary fiscal knowledge and talent to help the company earn a profit (Vozza, 2014).

Having these six main personnel at the beginning have major impact on success. However, that does not mean a startup needs six founders. Rather, a few of the founders could exhibit one or more of the attributes (Vozza, 2014). Of all the personnel types, the founder's entrepreneurial skills were most important to success because he or she had the idea for the company and started the process of hiring the key personnel.

Entrepreneurial skills that impact high-growth technology startups. A founder recognizes an opportunity to become a business owner and takes the risk of creating and running a business. Entrepreneurs take advantage of an opportunity and become a founder of a startup (Collins, 2012). These founders can be looked at on a micro and macro level to understand how they build high-growth startups. Being a successful founder requires a managerial discipline and entrepreneurial skills to harness the opportunity and take full advantage of the time, passion, and skill needed to create a successful startup (Reis, 2012). One theory by Reis from *The Lean Startup* (2012) suggested, "because the world lacks a coherent management paradigm for new innovative ventures, we are throwing excess capacity around with wild abandon" (p. 12). Therefore, entrepreneurship poses significant risk because this type of business lacks a specific management paradigm (Reis, 2012).

Not all these founders have the management skills needed to run a business (Reis, 2012). Entrepreneurs are expected to create buyable or scalable companies considered high-growth and profitable. Entrepreneurs are thought of as innovators who start their own business to create improved technology and bring products and services to market that have an impact on the GDP. They strive to meet needs of the people with a goal to reach other markets and expand the business (Reis, 2012). Because of the risk and skills involved, there are many suggestions for entrepreneurs to be successful.

To determine whether someone is the right fit to start a business, SBA (2017) suggested assessing personal strengths and weaknesses, such as being a self-starter, building relationships, making decisions, planning and organizing, and takings risks. To be called an entrepreneur, the first step is to find an idea and become a founder of the

company (Reis, 2012). These founders exhibit many attributes contributing to their success. Specifically, entrepreneurship was defined by three characteristics (Dollinger, 2003). The first was innovation, which typically meant developing a new product or technology, opening a new store, greatly enhancing a product, or forming a new organization. The second was running a business, which meant setting the stage for profits. The third characteristic was risk-taking because of venturing into the unknown with a high degree of uncertainty (Dollinger, 2003).

Research in entrepreneurship suggested startup founder knowledge, skills, experience, know-how, and expertise were part of startup's initial endowments, and critically determined the performance and survival of the startup (Cooper, Dunkelberg, Woo, 1994). A large body of research strongly suggested startups rely on strategic alliances with incumbent firms and investors to access complementary resources and capital to promote growth and performance (Ahuja, 2000; Baum, Caprese, & Silverman 2000; Baum & Silverman, 2004). Research also showed high-tech startups often were founded by former employees of prominent firms who were scientific stars (Arvanitis & Stucki, 2012). They credibly conveyed information about the quality of their ideas, technologies, and prospects, and facilitated commercialization opportunities for startups. Four different types of experience the founder could have were experience in the industry, experience as an entrepreneur, R&D experience, and relevant innovative ideas from a former occupation (Arvanitis & Stucki, 2012). These all related to the founder being a strong enough leader to create a successful company (Reis, 2012).

Startup location. Company location is important. New York, Silicon Valley, Los Angeles, Boston, Seattle, and Chicago were identified as the top growth cities for

startups where new businesses had a higher chance of success than in places like Kansas City, St. Paul, or Austin (Global Startup Ecosystem Report, 2018). Location played an important role in terms of access to funding, employees, facilities, and customers (Global Startup Ecosystem Report, 2018).

Seattle High-Growth Technology Startups

Seattle is home to some of the largest and most recognizable technology brands in the world, such as Amazon and Microsoft. Attracting talent remains key to creating success at these companies. For this reason, many of their former employees go on to start their own companies (Peck, 2017). They have the talent, connections, and startup funding needed to create a success story. These startups are mainly in the technology sector and often collaborate with or serve larger companies. Seattle has a laid-back attitude full of collaboration with world-wide enterprises, venture capitalists, over 300 tech meetups, angel investors, and a local, world-class university (Peck, 2017). Additionally, Washington has over 55 colleges and universities, creating a breeding ground for success in Seattle (Peck, 2017). These factors created a mecca for high-growth activity and high-growth startups.

Many high-growth technology startups have a breakthrough value proposition, the right talent hired, a community of obsessed customers cultivated, and a founder with the strength to push ahead (Lidow, 2014; Lord, 2017). Unlike small businesses, founders of these companies believe the vision of the company could change the economy and world (Lord, 2017). They hire the best and the brightest. They attract investments from venture capitalists. The founders of these company's search for a repeatable high-growth business model. When it is found, the emphasis on scaling the startup entails even more

venture capital to fuel rapid growth (Lord, 2017). Many founders of top startups from Seattle achieved high-growth or are on their way to achieving high-growth. These high-growth startups are why Seattle has a considerable role in the U.S. economy. However, the role women play in these high-growth startups needs to be measured as more women are entering the market for increased flexibility, independence, and a choice (SBA, 2017).

Another factor impacting startups is policymakers who promote and enact policies needed for current and future technology-based startups to develop and scale-up into firms that generate more jobs, offer higher wages, increase innovation and productivity, and improve global competitiveness (Atkinson & Wu, 2017). Although the U.S. might think it is winning the innovation war with companies like Apple, Google, and Amazon, it is not; for example, Congress deliberated whether to spend $200 million on eight innovation hubs around the U.S. whereas Singapore is spending $1 billion on similar hubs (Friedman & Mandelbaum, 2011). An infusion of funds is needed in Seattle as well as other places in the U.S., especially for women-owned startups.

Women's Role in High-Growth Technology Startups as Founders

Although prior research showed the role of startups in business is essential, there is a need to discover how women's roles as entrepreneurs and founders of startups adds to the economic well-being of the U.S. (Welsh et al., 2016). Lidow (2014) suggested founding a startup was one of the hardest jobs someone could pursue. The founder must be the technology guru, product developer, accountant, and marketer. Many startups fail not because the founders are incapable of all these duties, but because the founders lack coaches to prepare for the multitude of successes and failures to come (Lidow, 2014).

Coaching is needed within a startup to nurture the skills within it (Bailey, 2017). Coaches help with specifics needed to create high-growth startups. These coaches are a part of the support system in which startups become successful. Finding a coach can be hard, especially because the best coaches relate to what the founders are going through and have similar experiences (Bailey, 2017). It can be difficult with so few successful women-founded startups and even fewer women from these startups having the time and desire coach others (Women Who Tech, 2017). Therefore, it is essential to understand what creates success and failure in women-founded startups because of studies like that of Startup Genome and BCG looked at both male- and female-founded startups together. Most successful founders are ranked by how much money their company raised, their valuation, and how much publicity they received (Business Insider, 2017). However, it is unknown what factors helped contribute to their rankings, especially for a woman-owned startup.

For women-founded startups, the numbers are staggering and all over the board. Some say women are leading in startup growth (Grasshopper, 2017) whereas others say they are not (Women Who Tech, 2015). As of 2016, 11.3 million businesses were owned by women in the U.S. (Grasshopper, 2017). These women-owned businesses employed almost 9 million people and created $1.6 trillion in revenue. This created a need for these women-owned businesses to be studied, especially given that since 2007, the number of women-owned companies increased by 45% compared to general business growth of 9%. This creates a need to understand why women-lead businesses grew five times faster (Grasshopper, 2017).

Success Factors that Help Women Founders

Women's role in startups changed over the years as more women want to be their own boss and have more freedom with their schedule (SBA, 2017). This led to their strong presence in startups and the need to understand how these women founders are creating high-growth startups (Grasshopper, 2017). To be successful as a high-potential female entrepreneur, the company must make a profit. This type of founder creates a self-sustaining company that can operate even when the founder steps away (Lidow, 2014). Lidow (2014) identified several skill sets required for founders to establish a high-growth start-up:

- **Self-Awareness**. Successful founders understand their strengths and weaknesses, and lead with those attributes in which they are best.
- **Relationship Building**. Successful founders create a lasting team that trusts and wants to work with them.
- **Motivation**. Successful founders motivate others to work at their fullest potential.
- **Change Management**. Successful founders lead transformational change and break the status quo for greater results.
- **Enterprise Basics**. Successful founders understand the leadership needs of startups as they grow and evolve.

Although these factors represent a strong beginning for the skills necessary to start a successful startup, more research is needed for the specific skills needed by women founders. Kanze, Huang, Conley, and Higgins (2017) discovered women entrepreneurs are asked prevention rather than promotion questions during funding round interview

questions. They described how this difference in questioning had substantial funding consequences for women-led startups, which could help close the gender gap. Women understanding how to navigate these types of questions could help them raise funds (Kanze et al., 2017). Figure 1 presents prevention and promotion questions given to entrepreneurs.

TOPIC	PROMOTION	PREVENTION
Customers	Acquisition Example question: "How do you want to acquire customers?"	Retention Example question: "How many daily and monthly active users do you have?"
Income statement	Sales "How do you plan to monetize this?"	Margins "How long will it take you to break even?"
Market	Size "Do you think that your target market is a growing one?"	Share "Is it a defensible business wherein other people can't come into the space to take share?"
Projections	Growth "What major milestones are you targeting for this year?"	Stability "How predictable are your future cash flows?"
Strategy	Vision "What's the brand vision?"	Execution "Are you planning to Turing test this?"
Management	Entrepreneur "Can you tell us a bit about yourself?"	Team "How much of this are you actually doing in-house?"

Figure 1. Promotion versus prevention questions. Source: Kanze et al. (2017).

Que (2016) identified four reasons in how women also use their emotional intelligence (EI) as a secret weapon. First, women have permission to be emotionally intelligent whereas men do not. Second, women executives rank highest in EI. Third, women are more motivated to exude EI than men. Fourth, women's brains are different and considered to be more empathetic (Que, 2016).

Gender inequalities and the need for social change. Gender equity is still an issue for women founded startups and businesses (United Nations [UN], 2019). The UN discussed gender equity as Goal 5 under its Millennium Development Goals (MDG). Although progress was made toward gender equality and women's empowerment under

the MDG, which included equal access to primary education between girls and boys, women and girls continue to suffer discrimination (UN, 2019).

Much of the hype regarding social change and the media role shows women are still underrepresented in media (Powell, 2018). However, social media allows for more gender equality and the voices of women from a wider array of backgrounds and countries, with or without traditional power, to be heard. Therefore, using social media as a gateway for change is important within the social change framework (Powell, 2018). Awareness of the social media gateway can occur using a social change model, such as that developed by the Higher Education Research Institute in 1996 (Figure 2).

Figure 2. Social change model. Source: Higher Education Research Institute (1996).

Theoretical Framework – Female Entrepreneurial Index 2015

The theoretical framework used to guide this study was the FEI (2015). The FEI was chosen because it was based on over 300 studies from around the world to create 15 pillars that describe success factors specifically for women in startups. The FEI (2015) includes institutional and individual variables that correspond to micro and macro levels of entrepreneurship. Looking at both institutional and individual variables helps women founders create high-growth startups because both data types are explored using the three sub-indices of the index.

The FEI (2015) includes three sub-indices: entrepreneurial eco-system, entrepreneurial environment, and entrepreneurial aspirations (FEI, 2015). Entrepreneurial eco-system looks at variables that create access to resources such as partnering institutions and capital needed for women-founded businesses to be successful. Entrepreneurial environment concentrates on the essence and culture of the entrepreneur's economy and the presence of institutions that support entrepreneurial startups. The final sub-index, entrepreneurial aspirations, emphasizes the entrepreneurs' personal characteristics and access to new products and technology desirable to thrive and contribute to GDP (FEI, 2015).

These three sub-indices represent the 15 pillars defined by the FEI (2015), and each pillar contains an institutional and an individual variable that relates to the macro- and micro-level characteristics of entrepreneurship. The FEI (2015), including its sub-indices and 15 pillars is visually represented in Figure 3.

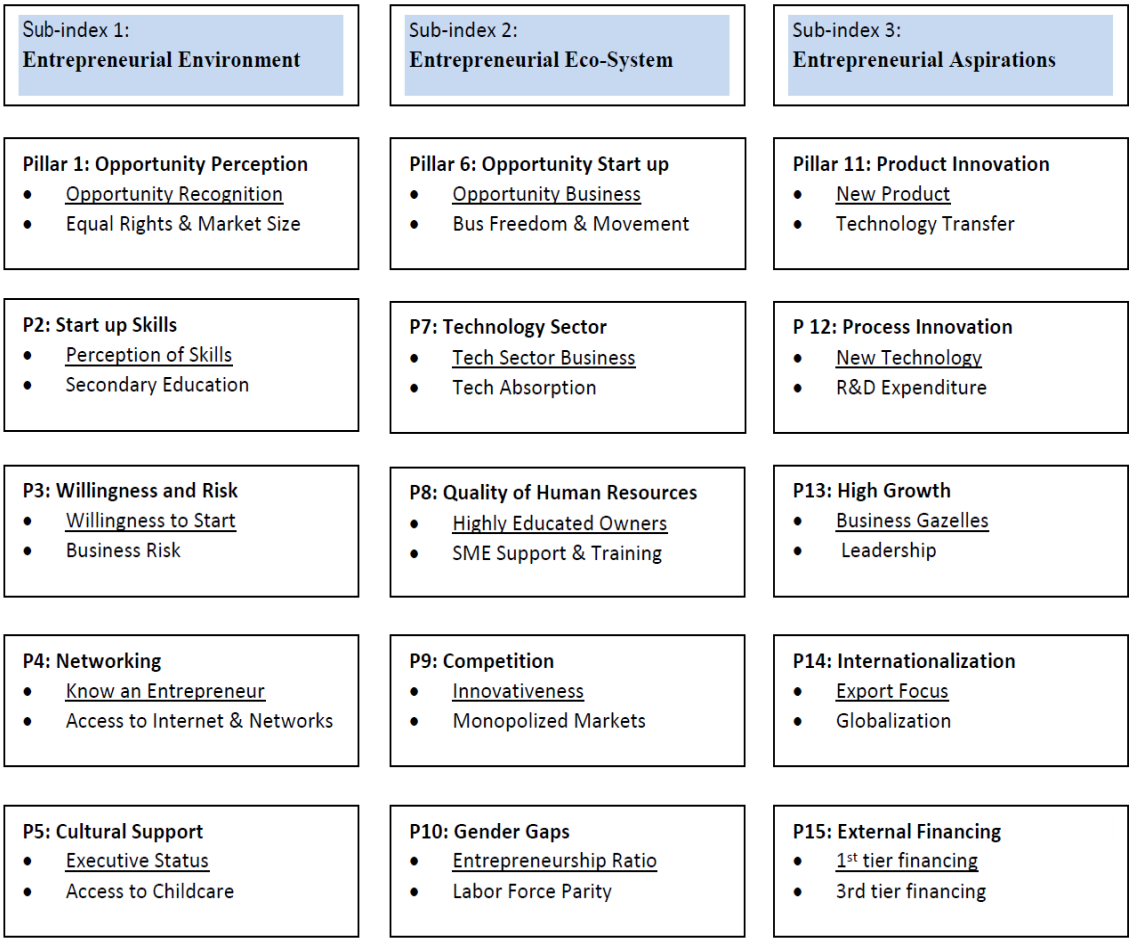

Figure 3. Pillars of the FEI (2015).

Entrepreneurial Environment

The entrepreneurial environment looks at opportunity perception, startup skills, willingness and risk, networking, and cultural support (FEI, 2015). Opportunity perception determines whether the entrepreneur can look at an idea and decide whether it is worth pursuing (FEI, 2015). Also explored is whether the founder can recognize the idea with enough clientele and equal opportunity, therefore making it an ideal candidate for a new startup company.

Next, the entrepreneur's skills are considered in terms of the marketplace and secondary education. The entrepreneur is tested on the human capital needed to be

successful in the startup venture. Many entrepreneurs possess the intellect with high levels of education but must also have enough confidence and technical experience to create a high-growth startup (Dollinger, 2003).

Then, willingness and risk-taking are explored. Women willing to start a business and put themselves on the line increased by 45% since 2007 (Grasshopper, 2017). This was furthered by better availability and dependability of corporate financial information, institutional support of internal company transactions, and protection of creditors by law, which improved risk ratings by 13% (FEI, 2015).

Networking is the next pillar in the FEI (2015). Networking includes access to other entrepreneurs and those with the skills needed to help create a success story. Knowing the right people can be vital to the success of a high-growth startup (Ahuja, 2000; Baum et al., 2000). Some networking groups include Association of Private Enterprise Education, Young Entrepreneur Council, Ashoka, Social Enterprise Alliance, and Vistage (Rampton, 2015). These groups can be accessed to find a coach and a support system of likeminded women-founders.

The fifth pillar under entrepreneurial environment is cultural support. Cultural support could prove more essential and many other factors (Baumol, 1990). For example, on the micro-level cultural support includes access to childcare to be successful. This pillar also examines the attitudes of the female population toward women in executive roles compared to men in such roles.

Entrepreneurial Eco-System

The first pillar within the entrepreneurial eco-system sub-index, the sixth pillar overall, is the opportunity the startup presents to the woman founder. The motivation an

entrepreneur has for starting a business is an essential signal of a high-growth startup (FEI, 2015). This pillar associates the level of a founder's opportunity-motivated activity with the startup and the constraints put on them by government regulation and male versus female constraints for women to participate in business activities. Entrepreneurs who sought opportunity viewed as better prepared, exuded superior skills, and tended to earn more than necessity-driven entrepreneurs (FEI, 2015). Necessity entrepreneurs created a business because they had the skills needed (Brewer & Gibson, 2014), whereas high-growth women founders saw the difference between a good and bad opportunity.

The seventh pillar of the FEI (2015) is the technology sector. Many high-growth startups come from new technologies (Reis, 2012). Technology-based businesses play a vital role in economic development, innovation of products and services, and growth of U.S. GDP. For this study, only technology-based companies were studied because of their importance highlighted in the FEI.

The next pillar focused on the quality of human resources and the level of human capital the founder exhibited. Human capital describes an order of hierarchy of knowledge and skills an individual possesses (Ucbasaran, Westhead, & Wright, 2008). The presence of high-quality human capital is crucial for innovative ventures that require an experienced, educated, and healthy workforce (FEI, 2015). Human capital theory was used a multitude of times as one of the most accepted theories concerning entrepreneurial readiness and skill (Davidson & Honig, 2003).

Competition and innovation were essential to understand if a startup could be high growth. Competition measures product or market differentiation combined with the go-to market power of current businesses and their groups. Innovativeness was defined as

having only a few competitors that offer the same service or product (FEI, 2015). Both need to be identified to determine if a startup could survive in the marketplace.

The last pillar in this sub-index is gender gaps, which looks at two crucial aspects of gender parity. The first is the women's aptitude in participating in economic and entrepreneurship activities and the second is their active participation in the labor force. Business startups researched showed they followed gendered employment patterns (FEI, 2015). If representation is balanced between genders in a country's labor force, then a pool of male and female entrepreneurs can be cultivated to transform formerly non-dynamic sectors (FEI, 2015).

Entrepreneurial Aspirations

Entrepreneurial aspirations encompass pillars 11 through 15. Pillar 11 is product innovation. Innovating new products is critical for high-potential female entrepreneur success (FEI, 2015). These innovations are mainly in the technology sector and represent either breakthrough or disruptive innovation (Blank, 2017).

Pillar 12 is process innovation. Process innovation involves inventions that improve a specific process, such as 3D printing improving manufacturing or solar panels improving the energy sector. Also included in this pillar are the R&D activities needed to create new products. Although R&D by itself does not guarantee successful growth, without regular research activity, new product development may not happen (Stam & Wennberg, 2009).

Pillar 13 involves high-growth businesses. These high-potential founders aim to employ at least 10 people and grow their startup by least 50% in five years (FEI, 2015). High-growth startups were the focus on this research study.

The second to last pillar is internationalization. Internationalization is required because to be high growth, the startup must have an online presence to create an international business (FEI, 2015). These businesses could also export internationally or offer services to overseas clients. Regardless of the method, high-growth startups must venture beyond the U.S. to reach a sustainable market (Startup Genome, 2012).

The last pillar is external financing, which could be one of the hardest to obtain. With only 8% of startups remaining after three years and 74% of startups failed because of premature scaling (Startup Genome, 2012), it is essential to dive deeper into women-founded startups to understand their barriers to success. Premature scaling means spending money on hiring people, marketing, and other areas either before the startup found a business model that works or generally spending too fast without securing additional financing (Startup Genome, 2012).

The FEI (2015) served as the theoretical foundation and baseline index for this study. This index was used to incorporate what women founders of technology startups were already accomplishing to create a high-growth company.

Summary

Female founders of high-growth startups need to be studied (Olugbola, 2017). Many factors contribute to successful startups, as seen in studies done by BCG and Startup Genome. A study done by BCG (2018) found of all the MassChallenge startups they worked with, 42% had a female founder. BCG is a group that conducts studies and consults with groups like MassChallenge. MassChallenge is a program that takes startups from beginning to end to help them create success. BCG (2018) conducted a five-year study on the gender gap between men and women and found the most

significant factor was a funding gap between the two. This gap was one of many noted as a barrier for women creating high-growth startups. BCG (2018) found three explanations for the funding gap that emerged during their study. First, women founders were asked more often than males to explain their technical skills, and they were often thought of as having fewer skills than men. Second, women founders hesitated to answer directly to criticism. They often agreed with the criticism whereas men expressed the critic was wrong and told them why. Third, women were more conservative in their projections and asked for less funding than men (BCG, 2018).

Therefore, these three explanations created a need to study women founded technology companies. However, these explanations are barriers to success; factors that created success need to be studied. Startup Genome (2012) looked at what could be helpful in creating success in their study of 3,200 high-growth startups in the web/mobile technology sector. However, Startup Genome examined what was needed at the beginning of the startup journey. Research to understand factors that create high-growth startups is needed to help women founders succeed.

Research is emerging, yet little is known about the difference between women successful in founding high-growth startups compared to those who are not (Devarakonda, 2015). Only a few studies exist on women founders (BCG, 2018; Lidow, 2014; Olugbola, 2017) and little exists on women founders of successful high-growth technology startups and the factors that contribute to their success. This study sought to fill that gap.

CHAPTER III: METHODOLOGY

Chapter I included an introduction to the study and background research. The research problem, purpose statement, research questions, and significance of the study were outlined. Chapter II reviewed the literature focused on women founders, success factors for high-growth technology startups, and high-potential female entrepreneurs. This chapter emphasized the lack of literature regarding women founders in high-growth technology startups and factors that contribute to their success. Chapter III begins with a review of the purpose statement and research questions, followed by the research design, population, sample, instrumentation, and data collection and analysis procedures.

Purpose Statement

The purpose of this mixed-methods study was to identify and describe critical factors of high-growth technology startups as identified by women founders in Seattle, Washington.

Research Questions

This study was guided by one central research questions and three sub-questions. The central research question was: What are the critical factors of high-growth technology startups identified by women founders in Seattle, Washington? The three sub-questions were:

1. What are the critical startup factors related to entrepreneurial environment for high-growth technology startups as identified by women founders in Seattle?
2. What are the critical startup factors related to entrepreneurial eco-system for high-growth technology startups as identified by women founders in Seattle?

3. What are the critical startup factors related to entrepreneurial aspirations for high-growth technology startups as identified by women founders in Seattle?

Research Design

Researchers use various methodologies to generate new theories, provide new insights on existing theories, reveal a process, or capture and explain a phenomenon. This study focused on identifying and describing participants experiences and perspectives as women founders of high-growth technology startups. Quantitative research methods are predictive in nature and study participants as objects and producers of data (O'Dwyer & Bernauer, 2016). Qualitative methods typically involve interviews to describe the experiences of a group of people and capture the meaning of social behavior, treating study participants as specialists, subject matter experts, and professionals in their experiences (Creswell, 2014; Patton, 2015).

For this study, the qualitative data stemmed from interviews to explore the lived experiences of the women founders. These data were supplemented with a brief survey and artifact review used to quantify some factors. This combination of qualitative and quantitative methods resulted in a mixed-methods study.

Population

According to Castillo (2009), the research population of a study is a defined collection of individuals or objects known to have similar characteristics. Usually, there is a binding characteristic or trait common within the population (Castillo, 2009). For this study, the population was female founders of companies in Seattle, WA, which was estimated at 118,300 (American Express, 2016).

Target Population

According to McMillan and Schumacher (2010), "the target population is a set of individuals chosen from the overall population for which the studies data is used to make inferences from the larger population" (p. 401). McMillan and Schumacher (2010) also explained a target population is a smaller representation of the population where findings can be generalized. For this study, the target population was women-owned technology companies in the Seattle area, which represented only 3.8% of the 118,300 women-owned companies (Atkinson & Wu, 2017). Therefore, the target population was the founders of the 4,495 women-owned technology companies in the Seattle area (American Express, 2016).

Sample

McMillan and Schumacher (2010) explained a sample is a group of subjects from whom data are collected. It was necessary to reduce the number of participants to a manageable size where data could be triangulated for accuracy and appropriate for drawing conclusions. For this study, a sample of 15 women-founders of startups in the Seattle area was selected. Criteria for selecting the 15 participants were: (a) female founder of a high-growth technology company, (b) the company was in existence for less than 10 years, and (c) the company was based in the Seattle area. A sponsor was used to help identify potential participants.

Sponsor for Study

Due to the specific characteristics of participants for this study, and limited access to this unique group of participants, it was necessary to investigate and identify a sponsor well-known in the technology industry in Seattle with access to a group of women who

met the study criteria. An individual was identified in the researcher's professional network. She was a woman-founder of a high-growth technology startup and belonged to a women-founders of technology startups group. The sponsor endorsed the study and encouraged members of this group to participate. She was also included as one of the participants as she met all three study criteria.

Sampling Procedures

Once the first five participants were identified, it was necessary to use snowball sampling. Snowball sampling is also called network sampling and involves each successive participant identifying additional potential participants (McMillan & Schumacher, 2010). For this study, snowball sampling was selected due to accessibility and ease of entry. Patton (2015) explained snowball sampling is typically used when there is low accessibility and difficult entry points to access participants, which was the case for this study.

The first step taken by the researcher was to allow the sponsor to identify at least five potential participants. The second step was to verify the identified women founders met the study criteria and were eligible to participate. Once confirmed, the third step was to conduct a phone call to explain the scope of the study and set up the interview time, should the participant agree to participate. After the interview was completed, the last step in the snowball sampling process was to ask the participants for referrals to other potential participants. This process was repeated until the researcher acquired 15 total participants.

Instrumentation

Researcher as the Instrument of Study

The researcher was considered the primary instrument in the study because of its heavier reliance on qualitative data. The researcher as the instrument also applied in mixed-methods studies because the unique qualities of the researcher affected data collection and analysis (Pezalla, Pettigrew, & Miller-Day, 2012). For example, the researcher is a women founder of a technology company much like the study participants, which brings inherent bias. These biases were addressed by using intentional strategies such as having an expert panel to review the instruments and having a third-party review the data coding for accuracy and bias. Also, prior to data collection, the researcher practiced her interviewing technique with an expert panel member and obtained feedback to counter the potential for such biases.

Interview Questions

Semi-structured interviews allow for specific interview questions that prompt open-ended, individual responses (McMillan & Schumacher, 2010). The researcher used a semi-structured interview approach to ensure participants were asked a common set of questions, but also probing and follow-up questions could be asked where appropriate. The interview questions were developed by the researcher based on the Female Entrepreneur Index (FEI; 2015). For each FEI sub-indices, interview questions were intentionally designed to answer the overall research question: *What are the critical startup factors of high-growth technology startups identified by women founders in Seattle, WA*? A copy of the interview questions is provided in Appendix A.

Survey

The survey included 20 questions. Five of them were used to gather demographic information and 15 of them used a Likert-type scale to quantify the perceptions of the women founders. The 15 questions were derived from the 15 pillars of the FEI (2015). The survey is presented in Appendix B. Links to the web-based survey were emailed to the participants before the interview and were filled out either before or shortly after the in-person interview.

Artifacts

After the interviews were completed, the founders were asked to give artifacts that could help expand or better explain the information they shared during the interview. Artifacts are physical displays that describe participant experiences, knowledge, actions, and values (McMillan & Schumacher, 2010). Examples of artifacts collected included fliers from networking events they attended, books they recommended for founders, the founder's personal leadership or service philosophy, and examples of minimum viable products. Artifacts related to their personal philosophy often described their attitudes about leading their team and their company. These artifacts were collected from each founder as available and used to identify factors that created success in their startup. Additionally, the researcher reviewed the participant's company websites and other information available through website or other public records to identify artifacts that could confirm information expressed during the interviews.

Validity

Mixed-method validity asserts that to check for the accuracy of the findings, the researcher must use specific procedures (Creswell, 2014). In this study with the primary

instrument being the researcher, the validity of the method depended mainly on the ability of the interview questions and electronic survey to collect the data intended to address the research questions. To increase the validity of the study, the researcher used an expert panel, pilot test, and member checking.

Expert Panel

Expert panels are used when experienced input and opinion is required to assess the validity of an instrument or study (Victoria, 2015). A primary goal of an expert panel is to reveal problems with a survey instrument or interview questions so they can be remedied prior to use (Willis, Schechter, & Whitaker, 1999). "Generally, a variety of experts are engaged based on various fields of expertise to debate and discuss various courses of action and make recommendations" (Victoria, 2015, p. 36). In this study, a three-member expert panel was used that met three of five criteria:

- Written a book on startups
- Conducted a seminar or keynote address on startups
- Worked with a startup for over 15 years
- Founded a high-growth startup
- Conducted a study as part of a doctoral program

The expert panel consisted of one man and two women. During this review, preliminary information on how the instrument worked for this study was explored. The expert panel reviewed the interview and survey questions and provided feedback to ensure the questions were valid.

Pilot Test

A pilot test of the interview procedures also occurred prior to start of the participant interviews. The researcher conducted a pilot interview with two of the expert panel members. One of them was an expert in qualitative research and watched the researcher interview one of the other expert panel members. Both experts provided feedback to validate the researcher related to the pacing, follow-up questions, tone, and body language, and whether the researcher was engaged with the respondent. The researcher used this feedback to help guide the interviews with study participants and changes were made based on the expert panel feedback.

Member Checking

Member checking was also used to increase the validity of the study. In member checking, the researcher receives verification by participants their interview transcripts are complete and correct (McMillan & Schumacher, 2014). Upon completion of each interview, the transcript was provided to the participant to review and check for accuracy. This ensured the information collected during the interviews was accurately captured and reflected the participant's perceptions.

Reliability

Reliability in mixed-methods research checks to determine if their approaches used were consistent and stable (Creswell, 2014). Yin (2009) described that researchers should document the many steps of the procedures of their studies to increase the reliability and credibility of the findings. For this study, the researcher examined internal, external, and inter-rater reliability.

Internal Reliability of Data

Internal reliability refers to the consistency within the data collection, interpretation, and analysis. With a high level of internal reliability, if another researcher reviewed the same data, they would come to the same conclusions. To increase the internal reliability, triangulation across data sources was used. When themes were established, they were based on converging several sources of data from the interviews, artifacts, and survey, which strengthened the internal reliability.

External Reliability of Data

External reliability refers to the ability for another researcher to obtain the same results if the study were replicated (Creswell, 2014). External reliability can also refer to generalizability. However, the goal of this study was to identify and describe the experiences of female founders of high-growth startups. It was not the intention of this study to produce generalizable findings. As such, external reliability of the data was not a concern because the results were not intended to be comprehensive.

Intercoder Reliability

Intercoder reliability is a critical component in the analysis of open-ended survey responses for content to be deemed impartial and valid (Lavrakas, 2008). Intercoder reliability is defined as the extent to which independent coders assess an individual characteristic of an artifact or interview and draw the same conclusion (Tinsley & Weiss, 2000). For this study, another researcher with a PhD double-coded 10% of the interview transcripts. For intercoder reliability, 90% or greater agreement was considered the best and 80% or greater considered acceptable (Miles & Huberman, 1994). A second research coder strengthened the rigor of the coding process to ensure the coding was reliable.

Data Collection

The data collection procedures are described in detail so this study could be easily replicated in other settings or with other populations. The following sections outline the data collection procedures for the interviews, surveys, and artifacts.

Interviews

Seidman (2015) explained the primary purpose of interviewing was to develop an understanding of the lived experience and meaning the interviewee ascribed to that experience. Seidman (2015) also described observations and artifacts as important in clarify the experiences and meanings portrayed during the interviews.

Interview participants in this study were asked to describe their experiences and ascribe meaning to them based on specific criteria. Participants were female founders of technology-drive, high-growth startups located in Seattle. A sponsor was utilized to find initial participants and snowballing sampling was used to recruit additional participants. The sponsor was a female founder, involved in the technology sector, and in Seattle, WA. After discussion, the sponsor felt more comfortable reaching out to potential participants and recruiting them for the study. After the sponsor agreed, the researcher helped the sponsor draft an invitation email (Appendix C) to potential participants from a group of women founders of technology companies with whom the sponsor met with on a regular basis. The following steps were taken to recruit interviewees:

1. A sponsor was chosen to help recruit participants
2. The sponsor emailed potential participants to see if they fit the criteria for study and convey information about participating
3. Those willing to participate reached out to the researcher

4. During a phone call with the participant, a time was set for the interview
5. All interviews were scheduled at a time and location convenient to the interviewee
6. Before the interview started, the researcher reviewed the study purpose and Brandman University Bill of Rights (Appendix D), which included information about the voluntary nature of participation and the right to take a break or stop the interview at any time
7. The researcher asked if the interviewee had any questions and all questions were answered before beginning the interview
8. The researcher reviewed the Informed Consent form (Appendix E) with the interviewee and acquired their signature showing consent to participate
9. Interviews lasted approximately 60 minutes
10. Interviews were captured electronically using a digital voice recorder as the main device and a cell phone audio capture application was the backup
11. When the interview ended, the researcher thanked the participant and explained the next steps about review the transcript
12. The researcher then sent the files in a transcription service after the transcriptionist confidentiality form was signed (Appendix F)
13. Once the transcription was received back and cross-referenced with the audio file again by the researcher for accuracy, the transcription was sent to the interviewee to confirm accuracy and provide additional information as desired

Electronic Survey

To gain a better understanding of the founders' demographic characteristics and perceptions of female founders an electronic survey was used. The electronic survey was sent to all participants before the interviews. The following steps outline the procedures for administering the survey.

1. The researcher contacted the founder by e-mail and requested their response to the electronic survey prior to the interview. A link to the survey was embedded in the email.
2. The researcher followed up with a second e-mail after 48 hours if the participant had not yet responded to the survey.
3. At the in-person interview, if the survey was still not completed, the research provided time after the interview and artifact collection for the participant to complete the survey. If they did not have time, the researcher asked they fill it out within the next 48 hours.
4. The researcher reviewed the surveys collected.
5. Complete surveys were aggregated and prepared for analysis.

Artifacts

After the interview, the researcher requested the founder to provide artifacts that could help address the research questions. This included requests for fliers, invitations to networking events, or documentation about the founder's leadership or service philosophy. The researcher also canvassed available online resources such as company websites and networking group websites the founders mentioned. The following steps were used to collect artifacts.

1. After the interview, the founder was asked if she had any artifacts.
2. If an artifact was not given, the researcher asked if the founder could email any artifacts to the researcher within 48 hours.
3. If nothing was provided within 48 hours, the researcher assumed the founder had nothing to provide and no follow-up was conducted.
4. If an artifact was provided, the researcher clarified if the document was public information and if it was private, permission was requested for its use in the study.
5. The researcher reviewed the artifacts collected.
6. The researcher created secured folders within her computer and named the artifacts collected according to pseudonyms and prepared them for data analysis.

Data Protection and Control

The researcher took the necessary steps to protect the data and minimize participant risk. Every interview was recorded after permission was given from the interviewee. To protect the interviewee, no personally recognizable data were requested. A number was assigned as a pseudonym to further protect participant identities, such as Participant 1. The digital files of the recorded interviews and the transcripts were kept in a locked filing cabinet in a locked office only accessible to the researcher. Upon publication of the study, all digital files and transcripts were destroyed.

Data Analysis

The researcher used the Creswell (2014) model for data analysis. The Creswell (2014) model outlined a process of (1) preparation and then organization of the data, (2)

reading and review of the data, and last, (3) coding the data. After the researcher received the transcriptions, they were sent to the interviewee to check for accuracy and provide feedback. After a comprehensive preparation of the data, the researcher devoted ample time to, review the data elements and reflect on them. This preparation allowed for general impressions to develop an initial list of patterns, themes, and categories that emerged from the review.

The interview transcriptions were uploaded into NVivo, a software program to assist with qualitative coding. After this the data were coded, the codes were reviewed for patterns and put into categories and themes. The data were reviewed multiple times to develop preliminary codes and themes. This coding process was used arrange the items into an organized manner and allowed for grouping, and the data also brought meaning and developed explanations from the study. Artifacts were also scanned an uploaded into NVivo for coding. The following steps outline the coding process:

1. The codes were first skimmed for themes
2. Codes were assigned to segments of text using NVivo. The frequency each code appeared in the data was calculated
3. Frequencies were reviewed to identify common themes, which described the experiences of high-growth women founders of startups

Limitations

Limitations are present in studies and unfavorably affect the results (Roberts, 2010). A major limitation of studies is research bias, including unintentional bias. It is essential for researchers to understand the limitations of the study design and inherent bias to implement strategies that can strengthen the study (Patton, 2015). The following

are limitations of this study and ways in which the researcher attempted to decrease the effects of these limitations when possible.

- **Researcher as instrument**. The researcher assisted as an instrument in the study by developing the instruments, collecting and analyzing the data, and interpreting the results. The researcher is a women founder of a technology company much like the study participants, introducing a high potential for inherent bias. This limitation was addressed by using intentional strategies, such as an expert panel review the instrument and interviewing technique.
- **Sample size and geography.** The researcher recognized the sample size of this study was small and delimited to Seattle, which limits generalization of findings. However, the intent of this research was to obtain a rich account of the business culture in the founder's natural setting rather than generalization findings to others. Findings from this study are specific to the female founders from the Seattle area who participated and founders in other regions or industries may have different experiences.
- **Self-reported data**. In this mixed-methods study, semi-structured interviews were used. The self-reported data was a limitation as participants may not have been honest or completely open in their responses, or could have said what they thought the researcher wanted to hear rather than giving an accurate account of their experiences. This limitation was reduced by triangulating data across multiple data sources, although the survey was administered to the same participants who responded to the interviews.

- **Time.** The collection of data and analysis procedures of the study were time-consuming and thus created a limitation. The substantial time taken to collect and then analyze the data added to the work the researcher had to complete and could have negatively affected accuracy and consistency.

Summary

The purpose of this mixed-methods study was to identify and describe critical factors of women founders of high-growth technology startups in Seattle, Washington. This chapter outlined the methodology used for this study, including the research design, population, sample, instrumentation, data collection and analysis procedures, and limitations. Chapter IV presents the findings from the data collected. Chapter V presents the conclusions, implications for actions, and recommendations for future research.

CHAPTER IV: RESEARCH, DATA COLLECTION, AND FINDINGS

This study focused on women founders of technology startups in Seattle, Washington. Chapter I introduced the study and its background. Chapter II provided a review of the literature focused on high-growth technology startups. In Chapter III, the study's methodology mixed-methods approach was described, including the study population, sample, and data collection procedures. Chapter IV identifies and describes the findings from this study by examining data collected from 15 women who founded high-growth technology startups in the Seattle area. In this chapter, experiences of the participants are described along with an analysis of the data and summary of findings.

Purpose Statement

The purpose of this mixed-methods study was to identify and describe critical factors of high-growth technology startups as identified by women founders in Seattle, Washington.

Research Questions

This study was guided by one central research questions and three sub-questions. The central research question was: What are the critical factors of high-growth technology startups identified by women founders in Seattle, Washington? The three sub-questions were:

1. What are the critical startup factors related to entrepreneurial environment for high-growth technology startups as identified by women founders in Seattle?
2. What are the critical startup factors related to entrepreneurial eco-system for high-growth technology startups as identified by women founders in Seattle?

3. What are the critical startup factors related to entrepreneurial aspirations for high-growth technology startups as identified by women founders in Seattle?

Population

The population for this study was female founders of companies in Seattle, WA, which was estimated at 118,300 (American Express, 2016). Given this was too large a population to study, a target population was selected. For this study, the target population was women-owned technology companies in the Seattle area, which represented only 3.8% of the 118,300 women-owned companies (Atkinson & Wu, 2017). Therefore, the target population was the founders of the 4,495 women-owned technology companies in the Seattle area (American Express, 2016).

Sample

For this study, a sample of 15 women founders of startups in the Seattle area was selected. Criteria for selecting the 15 participants were: (a) women founders in high-growth technology companies, (b) their startup was in existence for less than 10 years, and (c) the startup was in the Seattle area. A sponsor was used to help identify the initial sample and snowball sampling was used to identify additional participants.

Demographic Data

The study included 15 participants who met the eligibility criteria to participate. They signed informed consent forms prior to being interviewed and completing the survey. Specific demographic information was collected to describe the individuals, including their age, years involved with startups, years as a founder of a startup, and the number of and types of startups with which they had been involved. Table 1 represents the demographic data for each participant.

Table 1

Participant Demographics

Participant	Age	Years in Startups	Years as a Founder	Number of startups involved in	Type of Startup
1	39	9	5	25	Software
2	33	10	8	3	Online Healthcare
3	53	28	19	6	Computer Systems and Design
4	41	11	7	4	Software
5	34	10	2	5	Biotech
6	32	4	4	1	Agricultural Tech
7	52	3	3	1	Online website
8	60	12	12	2	STEM Education
9	32	9	9	1	Scientific R&D, Healthcare
10	49	8	6	10	Healthcare IT
11	43	13	7	4	Software
12	41	5	4	1	Software
13	60	8	6	Several	Medical Devices
14	48	11	11	7	Software
15	37	15	15	3	Software, Fintech

Presentation and Analysis of Data

The findings presented in this chapter stem from 18 hours of interviews, a review of artifacts collected during interviews or from the company websites, and from 15 online surveys. To derive common themes, data analysis was guided by the Female Entrepreneurial Index (FEI) of 2015. The three sub-were addressed through the research sub-questions and addressed the entrepreneurial environment, entrepreneurial eco-system, and entrepreneurial aspirations. After data were collected and analyzed, 15 themes emerged. These 15 themes are shown in Table 2 in descending order based on the frequency of each theme in the data.

Table 2

Theme, Sources, and Frequency Counts

Themes	Frequency	Sources	I	S	A
Fostering a strong support system to develop and solidify their identity	148	50	25	12	13
Taking financial responsibility for the startup	94	29	15	2	12
Building investor awareness through strong strategic partnerships	77	14	14	0	0
Having prior experience in a high-growth environment	66	24	13	9	2
Being intuitive and demonstrating high emotional intelligence (EI)	62	15	15	0	0
Being innovation-driven by marketplace and regulation changes	57	23	10	3	10
Strategically recognizing a new opportunity	55	16	15	1	0
Hiring a team that fills the founder's gaps	46	15	15	0	0
Understanding quitting was never an option	39	16	15	1	0
Creating organizational front-line responsibility and accountability	26	10	10	0	0
Strategically responding to investor questions	24	13	11	0	2
Using male influence to navigate the startup landscape	19	9	9	0	0
Identifying gender gaps	18	10	10	0	0
Normalizing feedback to create a strong culture of trust	17	8	8	0	0
Maintaining a strong spiritual practice	13	11	8	0	3
Total	**759**	**231**	**211**	**27**	**38**

Note. I = Interview, S = Survey, A = Artifact.

With the 15 themes identified, they were assessed in relation to the three research sub-question and FEI sub-indices. After analyzing the themes, the researcher concluded certain themes aligned with the different FEI sub-indices. The following sections present the findings by research sub-questions and the associated FEI sub-indices.

Table 3

Domains and Major Themes

Domain	Major Themes
Sub-Question 1: Critical Startup Factors in the Area of Entrepreneurial Environment	Theme 1: Fostering a strong support system to develop and solidify their identity Theme 2: Being intuitive and demonstrating high EI Theme 3: Being innovation-driven by marketplace and regulation changes Theme 4: Strategically recognizing a new opportunity Theme 5: Understanding quitting was never an option Theme 6: Normalizing feedback to create a strong culture of trust Theme 7: Maintaining a strong spiritual practice
Sub-Question 2: Critical Startup Factors in the Area of Entrepreneurial Eco-System	Theme 1: Hiring a team that fills the founder's gaps Theme 2: Creating organizational front-line responsibility and accountability Theme 3: Using male influence to navigate the startup landscape Theme 4: Identifying gender Gaps
Sub-Question 3: Critical Startup Factors in the Area of Entrepreneurial Aspirations	Theme 1: Taking financial responsibility for the startup Theme 2: Building investor awareness through strong strategic partnerships Theme 3: Having prior experience in a high-growth environment Theme 4: Strategically responding to investor questions

Findings for Research Sub-Question 1

Research Sub-Question 1 was: *What are the critical startup factors in the area of entrepreneurial environment*? In this sub-question, women founders of high-growth technology startups noted the creation of a strong support system to develop and solidify their identity. Seven themes emerged related to Sub-Question 1 and are displayed in Table 4.

Table 4

Domains and Major Themes

Domain	Major Themes
Sub-Question 1: Critical Startup Factors in the Area of Entrepreneurial Environment	Theme 1: Fostering a strong support system to develop and solidify their identity
	Theme 2: Being intuitive and demonstrating high EI
	Theme 3: Being innovation-driven by marketplace and regulation changes
	Theme 4: Strategically recognizing a new opportunity
	Theme 5: Understanding quitting was never an option
	Theme 6: Normalizing feedback to create a strong culture of trust
	Theme 7: Maintaining a strong spiritual practice

Fostering a strong support system to develop and solidify their identity.

Fostering a strong support system to develop and solidify their identity was the most common theme within the data, with 148 references. The data were so rich with all (100%) participants showing this theme, it was necessary to dive deeper and four child themes emerged (Table 5).

Table 5

Fostering a Strong Support System – Child Themes

Child Theme	Sources	Frequency
Support from family and friends	15	63
Classes to help further the business	13	38
Active role in startup networking groups	11	25
Hire a coach	11	22

Support from family and friends. During semi-structured interviews with open-ended questions and subsequent electronic surveys, participants were asked to identify and describe ways they created a high-growth technology startup by fostering a strong support system. The data revealed practices and strategies the founders used to create a

network of family and supportive friends who, in small part, helped them overcome the barriers and resistance they faced as women founders in a sector normally dominated by men.

In some interviews, participants had a difficult time answering the questions due to their personal nature. However, as they began to examine their core values and beliefs, they realized how important these interviews and the information they gave was to helping other women founders in technology startups advance their company to a high-growth status. Participant 1, in discussing women being marginalized in the startup business world, noted to create her startup's entrepreneurial environment:

> I got some heavy-headed women friends in my corner because I came to the realization that this issue that I thought was just my mother's generation issue about women and businesses is apparently still present for this generation. I didn't know that. I should know how to deal with issues of sexism and such, so I got myself advisors like that and then I've had a lot of different coaches.

In the area of entrepreneurial environment, another example of how women founders foster a strong support system to develop and solidify their identity was seen in Participant 14's response where she described how her boyfriend gave her unconditional love. He said to her. "I love you if you go bankrupt. I love you no matter what." This level of support was needed because, as Participant 4 said, "Running a startup is the hardest thing I have done and without support of my family, it would not be possible." This created a need for her family to be even more supportive. She described how her husband was there during her first pitch of her startup to an investor and afterward when

she felt she did not do a great job, he gave her the support she needed just by being there. This was the level of support Participant 13 received when fostering a strong support system. Participant 13 described how her emotional support system was good, saying:

> My husband is super supportive, and I think that most successful female founders often have a partner of some type that is supportive cause we tend to be the types of people that don't end up with non-supportive partners. He's been amazing, he's part of the business, he works one day a week with me and from day one, has been integral to the growth of what we're doing.

Classes to help further the business. Participants described how taking classes was an important part of growing their startup's support systems. The classes taken included a Presentation Dynamics Class by Participant 1. This class taught her three things that matter when presenting:

1. Authenticity. When founders were not authentic, people could tell and would not establish new connections with them.
2. Believability. Founders cannot do anything that impacts or degrades their credibility.
3. Content. Only about 10% of the content matters because authenticity and believability are most important.

Participant 3 described how her level of confidence during presentations was the most important for her. On average she said, "most presenters close about 3% of who they pitch their business to, but I close almost 50%." This is an astounding number and she attributes it to her confidence level when presenting, which was learned over time.

During artifact collection, the researcher was given the website for this class to review. This site showed the times and dates of the classes and a brief overview of what the classes entailed.

Another class the women took was the Landmark Forum. The Landmark Forum is given all over the world and Participant 1 described her experience as helping her overcome the feeling of letting people down and anxiety while talking to investors and giving presentations. This was another website the researcher reviewed, which described the Landmark Forum and different classes available to business owners. She said the forum "freed me from anxiety" because she finally heard what her investors were saying. They were frustrated with her and felt she did not respect the capital they invested in her. She responded to them saying:

> Everything I am doing is made possible by your investment, and the fact that you took a chance on a 20 something in an industry that is not proven out. I understand you are not going to make any more investments in my company, but I need to raise money and the only way I can do that is if you are willing to cut your guys ownership by half and make room for another investor.

In the end, they cut their investment by half and she was able to raise the money needed. This was all made possible by the Landmark Forum, which taught her how to be free from anxiety to build a healthier entrepreneurial environment for her startup.

Active role in startup networking groups. Participant 1 described how networking groups specifically helped with her business. The electronic survey concluded 13 participants agreed or strongly agreed their network played an important

part in building their startup. One of the networks mentioned was Entrepreneur Organization (EO). To be a part of EO, these women had to meet specific qualifications. Once met, they were put into forums with 9 or 10 other members who discussed personal and business-related issues monthly, which helped foster their network. Participant 9 described the forum as brilliant, saying "in this forum, everyone comes prepared to be really honest. You put your ego away, and you just bring any issues that may be happening to the table, and then you get the benefit of perspective from the others." Other networking groups mentioned during artifact collection included Female Founder Alliance and New Tech Seattle, which participants described as invaluable to their business.

Hire a coach. Eleven of 15 (73%) founders used some type of coach to help their startup's entrepreneurial environment. Participants noted coaches helped them deal with life from a mental health perspective, which further developed and solidified their identity. Participant 1 described her coach as having rules and told her, "If you're working with me, you have to sleep, you have to exercise, you have to eat appropriately. If you're not doing those things, you cannot be a client of mine."

Participant 10 said, "Hiring a coach was probably the number one best decision I made. The coach offered me to join a private coaching group, really focused on female entrepreneurs, and I loved it. I loved it because it was personality based." The coach helped her realize her strengths and where she needed to hire someone. Coaches helped her streamline where to invest her money. She never thought she could build her business because of her limited mindset, but after working with the coach she realized

she had the skills needed. During artifact collection, Participant 10 also gave the researcher the names of her coaches and their websites.

This was exactly what coaches offered many of these founders. Participant 12 and 14's coach taught them how to form an entrepreneurial environment that worked for them. This environment for both included building a team comprised of hiring to fill gaps missing in their business, and then creating a culture around the team conducive of a happy and healthy work environment.

Three participants also reported using a style coach. Participant 1 showed the researcher a picture of her before and after hiring a style coach. The coach helped her build confidence and feeling better about herself, through new clothing, makeup, and hair style that created a personal brand and professional appearance. Participants noted they walked and talked with more confidence, which added to their professional appearance. Participants 1, 10, and 13 all used a style coach to help them build their personal brand. Participant 1 described:

> I was really dealing with concerns about my age, at the time I really tried to do things, to make myself older. I got myself a professional bob haircut… I would wear business suits with shoulder pads. It was quite something and the way the coach helped me was exactly what I need to create my professional appearance.

Participant 10 shared:

> A style coach helps women show up consistent with her brand. I find a lot of women use their time and resources in building their online brand. You know their logo, their website, and their Instagram branding. I think

> finding an image stylist is super important to your team. And then finding a good photographer for your headshot as well.

Another example of hiring a style coach came from Participant 12 who realized she needed to get "the style thing figured out" when she was asked a lot of questions about her age. She was told she dressed too casually and did not look professional, so she hired a stylist to upgrade her wardrobe. She said:

> It's still hard to say whether the comments on my appearance changed after getting a style coach but it at least became something that I didn't think about anymore. This made it much easier for me to focus on the investor I was pitching to instead of worrying about appearance. It gave me the confidence needed to get the capital for my startup.

For the participants, fostering a strong support system to develop and solidify their identity was shown through the personal and professional network they built, the classes they took, and the coaches they hired. These women described what was needed to create a high-growth startup through their network, which created a successful entrepreneurial environment.

Being intuitive and demonstrating high emotional intelligence (EI). EI can be described as the capacity of people to be aware of, in control of, and able to express their emotions, and handle interpersonal relationships judiciously and empathetically (Goldman, 2008). To create an entrepreneurial environment constituting a high-growth startup, the founders exuded a high level of EI through self-awareness and self-management. This level of EI was seen in Participant 11 when she described her business as "having a combination of willingness to believe in what you do, that it's the right thing

to do in your heart and being born to do it. That is my mission." Table 6 shows all 15 participants discussed EI with a frequency of 62 references.

Table 6

Being Intuitive and Demonstrating a High Level of Emotional Intelligence

Theme	Sources	Frequency
Being intuitive and demonstrating high EI	15	62

All participants described being intuitive and demonstrated a high level of EI. For example, Participant 12 made it clear she exuded high EI, saying, "My co-founder, he has a high emotional intelligence, and we talk about our feelings because, as founders this is something that I've seen founders not do, but we communicate very well for this reason." She also mentioned how "being female brings a different perspective to the table. It's figuring out how to use those perspectives to get to that end goal, the outcome that you need, women inherently have the ability to see how everything connects quickly."

Participant 13 made an intuitive comment regarding men and women investors, sharing:

> A lot of the men who're involved in investing got their money through family or Google or some sort of previous job. There're a lot of people who are not founders, who are investors. And I say, that's something that is true for women, but even more so, because there are so few women success stories as startup founders. There're very few women investors who have been entrepreneurs and so I think that's part of the problem."

Many investors these women asked for money were never an entrepreneur. Participant 12 explained, "They don't know what it takes to build a business, which can

be hard to relate to." This intuitive nature regarding investors was also seen by Participant 15. She explained how "being self-sufficient, and not having to raise money is so important, but the most important piece is to understand that you're going to get rejected a lot, but all you really need is a couple yeses." This explained how her high-level of EI taught her not to tie emotion to negative responses from investors and rejection does not equate to not being good enough. Being able to make that distinction demonstrated her EI. Participant 15 depicted her high-level of EI as having "self-awareness and self-management with investors." Participant 15 stated:

> I think men naturally receive funding from investors. As women in tech, asking for fundraising in such a way that we are bringing them a gift and an opportunity and something of value that they want to buy is an important mindset with sales and any areas of business. For men, it's a lot easier, they just go in there blazing, thinking they are the greatest thing since sliced bread. Women have this mindset of not many of us get funded and this needs to change so we are presenting the investor with a gift and an opportunity.

Participant 2 described her EI strategy as knowing "what my coping mechanisms are, and my resiliency strategy got me to where I am as a high-growth startup." This led into the third theme, which was the startups' innovation was driven by marketplace and regulation changes.

Being innovation-driven by marketplace and regulation changes. Participant 5 discussed how innovation is needed to drive a market when developing a successful high-growth startup. Ten participants (66%) noted marketplace and regulation changes

were used to create success for their startup. Table 7 depicts the number of sources and shows this theme was referenced 57 times.

Table 7

Being Innovation-Driven by Marketplace and Regulation Changes

Theme	Sources	Frequency
Innovation-driven by marketplace and regulation changes	23	57

Participant 2's success was driven by a regulation change in legislature regarding the family and medical leave act for companies throughout the US starting with Washington state. These companies had to follow new guidelines and she had a solution to help them follow these guidelines. She noted in the survey regulation changes strongly helped her business. Because of the regulation change within the family and medical leave act, she knew she had the opportunity to create her startup into a high-growth success by helping companies affected by these changes. She said:

> If the marketplace is ready for our technology, we're going to get acquired and we essentially were founded in May 2015 and raised our first round of funding in January 2016. From founding, to only 18 months later we were in a process to be acquired. It was so fast. It's very rare, like 0.02% of companies can exit at that stage.

The regulation change and then the marketplace being ready for her startup caused her startup to become high growth in only 18 months. The researcher collected information from a website regarding the regulation change. As Participant 2's success was driven by a regulation change, two other participants used marketplace changes to create their success. Both participants worked in women's health and after much

research, Participant 7 discovered "the core truth was, women are largely unprepared for menopause because we don't talk about it." This was an area within the marketplace where she saw a gap in information, products, and services. This marketplace need was also seen by Participant 3; they both created a successful entrepreneurial environment around the marketplace need for menopause information, products, and services.

Another example of innovation driven by marketplace and regulation change came from Participant 8 who described the market as one of the sole factors that helped her create a successful high-growth business. She said, "You can have a mediocre product and a hot market and do well and the exact opposite is true as well. You can have a great team and great product with a mediocre market and not do well." She found a need in the data privacy regulation market concerning the consumer Privacy Act, which changed drastically about four years ago when data privacy became an issue for the consumer. She saw a need for consumer data to be cataloged and protected by all companies. The new regulations on this created an opportunity for her.

Ten participants (66%) referenced their startup was driven by innovation to address either a marketplace need, regulation change, or both. Marketplace need and regulation changes created the need for the startup, but the founder's job was to see the opportunity. This leads into the next theme, strategically recognizing a new opportunity.

Strategically recognizing a new opportunity. Strategically recognizing a new opportunity was referenced 55 times across 16 sources and by all 15 (100%) participants. Participant 1 said, "it's not like we're doing something that people already know how to do; we're inventing totally new scientific technology that we patented." The opportunity to create a startup using this new scientific technology was something she noticed at 22

years old and has been working on her current startup for almost 10 years. She said she only had a few competitors and no one was doing exactly the same thing. Table 8 shows the frequency and number of sources for this theme.

Table 8

Strategically Recognizing a new Opportunity

Theme	Sources	Frequency
Strategically recognized a new opportunity	16	55

> The opportunity Participant 1 recognized was important to her as she believes: Our technology will touch every single human on our planet. This is the basis of the future of healthcare and the only way to have that happen is to understand what is happening in the code of all of our genomes by analyzing lots and lots of people because it's only through scale that you understand anything.

Participant 11 had a similar experience as being one of a few to recognize opportunity in her field when she accepted a grant from the National Science Foundation. She said, "I was the only one that took the grant and turned it into a fully sustainable, scalable program for girls in STEM." She saw an opportunity to spark girls' excitement about technology careers and inspire them to new possibilities within STEM. With this excitement she created a STEM program for girls of all ages that is taught in schools around the world. Similarly, Participant 13 strategically recognized an opportunity while working for an entomology company before she founded her own startup. She realized the co-founder of the first startup she worked with did not have the scientific expertise

needed to drive the company whereas she had expertise with a PhD in entomology. She said:

> I realized that I was never going to get where I thought the first startup I worked for needed to be. I started thinking more on the smart independent roots, and that started my own business. In the summer of 2015, I started experimenting, thinking about what a company could look like in the space and then my startup formed.

Participant 4 also said, "I founded my first tech company in an effort to streamline the incredibly outdated industry I was in and make it better." She saw an opportunity in the software market to create a system that was more user friendly with more features, and used it to create an entrepreneurial environment of success. The opportunities the participants saw turned into what Participant 11 called *her baby*. The company is "my baby and because of that it is something I will never give up on," which directly related to the next theme.

Understanding quitting was never an option. One of the participants was almost in tears describing how her startup had taken over her life and she lacked time for friends or family and her love life was non-existent for years. For these women, the sacrifices they made created a need for them to "have an attitude of resiliency, adaptability, and to never quit," as stated by Participant 13. Being a startup founder was the hardest thing Participant 3 and 4 described they had ever done. Table 9 shows the theme quitting was never an option was found in 16 sources with a frequency of 39. All 15 (100%) participants described this theme.

Table 9

Understanding Quitting was Never an Option

Theme	Sources	Frequency
Quitting was never an option	16	39

Participant 11 explained how being successful, "you really have to believe in your mission and want it more than anything else, because it's been a long, hard road." This level of sticking to what they started was described by Participant 12 as "being ok with instability." She stated instability "could drive someone crazy, but the stimulation associated with building the business drives her through those really frustrating unstable times." This created an ability for her to "handle disappointment and move on from it, which is something I have and is what I've always felt like I can do in a startup setting."

Participant 14 explained "having a startup is one of the hardest things that you can do because you have to be comfortable with yourself and be ok with rejection on a daily basis." This level of sticking to the job and not quitting was seen among the participants. During artifact review, the researcher saw Participant 3's product prototypes, which took her three years and $500,000 of her own money. Participant 3 said without that level of commitment, "I would not be where I am at today with a high-growth startup that is successful."

Participant 13 talked about the drive someone must have to run a startup business, sharing, "Someone must have a drive that is absolutely exceptional, not even above average drive, you need exceptional drive and perseverance because this is a road unlike any other." She added, "You need stick-to-itiveness, the determination, and then the resilience that one must have to balance that. Those aren't skills, I think, you necessarily

learn to have. You either have the burn or you don't." Participant 3 described her level of commitment and attitude of never giving up through her motto "go big or go home." These women all did something exceptional with their lives and not quitting was a huge part of their success.

Normalizing feedback to create a strong culture of trust. When creating a culture of trust, Participant 3 described the importance of feedback received from employees must be a normal part of the culture. Participant 3 explained without a continuous feedback structure, there is no trust. Table 10 presents the number of sources and frequency with which this theme appeared in the data; eight (53%) participants normalized feedback to create a culture of trust.

Table 10

Normalizing Feedback to Create a Strong Culture of Trust

Theme	Sources	Frequency
Normalizing feedback to create a strong culture of trust	8	17

Participant 12 talked about the trust built in her organization and how she had "hesitation hiring my friends, but I realized that I want to hire people I trust and understand me in my crazy moments, that will give you straight and honest feedback." Participant 12 said, "We are building trust with one another through open communication," which created a feedback culture for her startup.

Participant 6 indicated trust was shown within the competent culture she and her co-founder built through continuous feedback from her employees. She discussed how she talked to her employees, investors, and co-founder daily to receive honest feedback, which helped create her high-growth startup. Participant 3 stated, "Relationships are all

about trust. My investors trust me; my employees trust me because I have high integrity and they know I'm going to do the right thing. This feedback loop was created overtime, not overnight." Many of the founders also realized during their journey as a woman founder, they needed a strong spiritual practice to guide them.

Maintaining a strong spiritual practice. Spiritual practice for Participant 14 was engaging in yoga and meditation. However, spiritual practice was different for each of the eight women who noted this theme. Table 11 shows eight participants (53%) were spiritually inclined, helping them build their entrepreneurial environment and making this theme one of high importance. This theme was identified in 11 sources and referenced 13 times.

Table 11

Strong Spiritual Practice

Theme	Sources	Frequency
Maintaining a strong spiritual practice	11	13

Participant 1 had an experience with one of her investors that she called a "kindred spirit thing." They had a spiritual connection in which they recognized each other. This connection helped build trust with the investor. This was a powerful example of using her spiritual practice to get much needed investment dollars into her company. In contrast, Participant 10 incorporated a spiritual practice into her routine every day. This was a practice she instilled in her children, who are part of her entrepreneurial environment. She talked about "starting our day with, journaling, reading, visualizing what I want my day to look like, and having an affirmation for the day." That visualization could look like her signing a contract with a new client or closing a Series A

or B round of investment dollars for her business. Then she adds affirmations, such as "I am unlimited," "I am strong and powerful," "I am resilient," "my business is high-growth," and "my employees are trustworthy." These were all shown in her daily journal, which she shared as an artifact with the researcher.

These types of spiritual practices were also used by Participant 11, but in a different way. She used "channeling" to help create her business. Channeling is a technique used to gain information through meditation by serving as a medium for a spirit (Radford, 2013). This was not something widely talked about although two participants used this type of technique. Participant 11 said, "I train everybody how to do this work; I'm channeling it." Channeling to her meant using information from her meditation sessions to help create STEM programs for young girls. This helped provide information beyond what she knew and was an important part of her spiritual practice.

Participant 2's use of channeling helped build her business as well. She had a similar experience as Participant 11, by building her business using herself as a "vessel." She stated:

> I had a very spiritual experience and it's a coping mechanism because you are trying to disrupt the market and you think it's about how hard you work, or you as a person, or you and your performance, or you and your ability to raise funds. If you operate this way, you'll crack mentally. It's too much pressure on one person and so the way I coped was, I'm just a vessel. I'm just here trying to make change in some small way that I can and if I fail, that's also part of the change. If I succeed, it's part of the change. Universe, you tell me which way to go. That's the only way I

could survive because it's too much. Because so many founder's cave and cope with self-medication. But for me spirituality is what did it.

The idea of self-medicating was noted by other founders who felt the pressure of being a women founder. For many of them, they used yoga and meditation. "I self-medicated myself through exercise and eating well," expressed Participant 1. These spiritual practices along with the other themes were all critical factors in the entrepreneurial environment for the women founders.

The seven factors identified in Sub-Question 1 helped the founders create an entrepreneurial environment of close family and friends, coaches, and networking groups. The founders exuded intuitiveness and a high level of EI. They found opportunities within the marketplace and regulatory changes to create a high-growth startup. Quitting was never an option for these women, which helped them receive feedback needed to create a strong culture of trust. These were the seven themes that emerged from Sub-Question 1.

Findings for Research Sub-Question 2

Sub-Question 2 focused on factors that attributed to the women founders' startup related to entrepreneurial eco-system. They described how they hired a team that filled their knowledge gaps and created front-line responsibility and accountability. The founders used male influence to help them navigate the startup landscape through investor introductions to which they would not otherwise have access. The last theme was gender gaps, which could be seen throughout building their technology startup. Table 12 summarizes these themes.

Table 12

Domains and Major Themes

Domain	Major Themes
Sub-Question 2: Critical Startup Factors in the Area of Entrepreneurial Eco-System	Theme 1: Hiring a team that fills the founder's gaps Theme 2: Creating organizational front-line responsibility and accountability Theme 3: Using male influence to navigate the startup landscape Theme 4: Identifying gender gaps

Hiring a team to fill the founder's knowledge gaps. Many founders, including Participant 14, "knew when I started my company, hiring the right team was crucial to my success." Several founders said hiring the right co-founder was important as was finding a team that could fill in knowledge gaps. All 15 (100%) participants felt this was important, with a frequency of 46 (Table 13).

Table 13

Hiring a Team to Fill the Founder's Knowledge Gaps

Theme	Sources	Frequency
Hiring a team to fill the founder's knowledge gaps	15	46

Although 10 of the 15 founders had a master's degree and three had a doctorate degree, the need to fill in the gaps was mentioned by every founder. Many of them felt it was important to have a co-founder with a "high-level degree." Participant 12 noted her co-founder had the schooling she was missing, which included a PhD. Another example of a founder hiring to fill in knowledge gaps was described by Participant 1 who said:

> Some of my people are really brilliant and talented; they could be paid a lot. One of my co-founders could easily be making like a half million

> dollars plus at a Google-type job and the same for my Director of Engineering. One of my optimization engineers came from Google and dropped this gigantic salary to come play with us.

She described these people as mission-driven, where the mission was more important than the paycheck. Their desire to create an entrepreneurial eco-system took precedent over making money. Participant 11 said she recently lost her program manager and she "couldn't have done it without her." Participant 11 said, "This woman is incredible. She has a passion and a mission for this work. She just up and quit her job to carry out the mission of bringing STEM to girls in schools throughout the world." This woman helped construct the entrepreneurial eco-system of her startup.

Participant 12 developed her entrepreneurial eco-system by hiring four fulltime employees, including backend operators with product knowledge to help with lab collection and regulations within the lab. These were areas she knew she needed to hire to fill in her knowledge gaps. Participant 13 knew she needed to fill in gaps as well and hired another PhD with the same degree as her in entomology who could fill in for her when she was not there. She did not just find someone to fill in the gaps, but to literally fill in for her as well, which took some of the stress off her.

Participant 15 called it "extreme self-awareness when hiring." She said, "I understand what my weaknesses and gaps are so I can hire and bring on partners and mentors that fill those roles." These founders knew their shortcomings and being successful was more important than anything; therefore, they hired to meet their goals.

Creating organizational front-line responsibility and accountability. When Participant 1 created her business nearly 10 years ago, she knew her staff had to

"understand the risk they're taking… Cause the reality is that in high-risk, high-growth technology type start-ups, the number of times you're going get really close to or actually run out of money is a lot." Table 14 shows the sources of 10 and frequency of 26 for this theme. There were 10 (66%) of the participants which showed this theme.

Table 14

Creating Organizational Front-Line Responsibility and Accountability

Theme	Sources	Frequency
Creating organizational front-line responsibility and accountability	10	26

Participant 1 described the responsibility and accountability of her front-line staff as:

> I have people that are willing to skim the tree tops or crash into the ground a couple of times, and if you don't have people that are willing to do that with you and communicated that effectively such that they can manage their own risk profile, then they are not going to stay with you through the journey.

Creating this entrepreneurial eco-system throughout their companies was depicted by 10 of the participants. Participant 1 concluded, **"**Willingness to be straight with your team about what's going on and have faith that they can handle it was key" to creating this front-line responsibility and accountability. Participant 12 had a similar experience building her team of people who believed in her mission and were agile, knowing what they were doing was making a difference in the world. This sentiment of making a difference in the world was continued when Participant 12 said, "It's not just the

difference I am making in the world, it's the difference my employees are making that's important."

Participant 10 reported creating front-line responsibility and accountability was inherent with employees, but also investors and coaches. She said:

> Trust the process and keep going; be honest with your board and your investors. Set up everybody and make them feel safe for success in terms of the employees that you'll get to the next stage. Philosophically that's the way to really get through everything and continue to grow and continue to be successful.

Participant 2 described this way of establishing responsibility through her efforts, which then produced the same in her front-line staff, being "serendipitous." She said her secret was, "I had to be patient enough to find the right person. Then everyone came to me." Along with finding the right employees, finding the right allies and influencers was important.

Using male influence to navigate the startup landscape. Male influence was used by nine of the founders to navigate the startup landscape. Over 60% of investors used influencers who appeared in the form of employees, investors, and coaches. Using male influence was mentioned 19 times during the study from nine sources with eight participants mentioning this theme (Table 15).

Table 15

Using Male Influence to Navigate the Startup Landscape

Theme	Sources	Frequency
Using male influence to navigate the startup landscape	9	19

Participant 11 gave an example of this when she found a man ally within a large organization who later helped fund her startup and got her program recognized by Microsoft. She gave the researcher an artifact showing the website and information about the organization the male ally helped her design. Before then, she had a woman doing the same job within the organization, but there was no traction until one man took a selfless interest in her company because he had a daughter interested in her STEM program. Participants determined having a male influencer introduce the startup at pitch events is what it took to get investors to listen to the pitch. Participant 4 concluded, "A man starting out the pitch" grabbed their attention and then she "would finish the pitch". This gender disparity shaped the theme identifying gender gaps.

Identifying gender gaps. When speaking with participants, gender played a role mainly in them getting funding. Ten participants mentioned gender gaps being an issue with 64% of the founders stating on the electronic survey being a woman either strongly hindered or somewhat hindered their ability to receive funding. Identifying gender gaps was found in 10 sources with a frequency of 18.

Table 16

Identifying Gender Gaps

Theme	Sources	Frequency
Gender gaps	10	18

Participant 4 stated:

> My first time in an Angel group, I had a very discouraging experience with the head of the group because I was a female CEO. He not only recommended but went to the extent of saying that my CTO who is a

> male, we should reverse roles, or I should have a different role in the company, and he should be the CEO before we presented to the group.

This was the first time after being in many other startups she felt discriminated against for being a woman and she believed it was because she was now in a technology startup, which "this sector is mainly males." She also believed one of the issues was women versus women. Many of the women-focused networking groups in Seattle are fighting for the same pool of investment money. Participant 12 said it was difficult to raise funds "because I have to figure out how to filter out the noise and filter out the groups that are just talking to us because I'm a female founder."

These gender gaps created other issues for the women, including gaps with female-focused investors. Participant 12 said the female investors within these groups were "harder on the female founders than male founders." Participant 13 said, "I think it's all in good spirit and good intention, but it's horribly executed by these female investors." She described how being a woman and getting to the top is hard and where these women investors were coming from was because they want to win, so they are extra harsh because they cannot afford to fail.

Participant 11 took a different stance with investors, sharing, "it's been like pulling teeth to get these big companies to give us money. It's been the heartbreak of my life." The big companies in Seattle are finally noticing what she is doing, but only because a male counterpart has been at the forefront of raising money in these larger organizations. She said,

> I've tried every other thing I could think of. And until I started putting men in front of investors, I mean, I've gotten somewhere but these men

they have access to everything. Yeah, this is the good old boy's network. You know, it still is in the USA, it's still the good old boy's network that has not changed.

When raising funds, many of the women hired other companies to help them. Participant 11 said, "ultimately, you may have to hire a company to help you get good investments. You have to just be open to whatever is going to get you there because it is not easy being a one-woman entrepreneur." These women founders created an entrepreneurial eco-system around them by filling the knowledge gaps within their team, creating front-line responsibility and accountability, using male influence to navigate the startup landscape, and understanding the role gender gaps plays in developing a high-growth startup.

Findings for Research Sub-Question 3

Four themes emerged related to Research Sub-Question 3: taking financial responsibility the startup, building investor awareness through strong strategic partnership, having prior experience in a high-growth environment, and strategically responding to investor questions (Table 17).

Table 17

Domains and Major Themes

Domain	Major Themes
Sub-Question 3: Critical Startup Factors in the Area of Entrepreneurial Aspirations	Theme 1: Taking financial responsibility for the startup Theme 2: Building investor awareness through strong strategic partnerships Theme 3: Having prior experience in a high-growth environment Theme 4: Strategically responding to investor questions

Taking financial responsibility for the startup. When a company is first built, creating a budget and team to handle the budget is most important, along with many other attributes that form a financially responsible startup. The data for this theme was so rich, it was necessary to dive deeper into the data and five child themes emerged. For these founders, avoiding premature scaling while creating a buyable and scalable company was the goal. They also created a minimum viable product, and many had a financial modeling background. Table 18 presents the number of sources and frequency for each theme.

Table 18

Financial Responsibility for the Startup

Child Theme	Sources	Frequency
Creating a minimum viable product	13	33
Avoiding premature scaling	9	21
Creating a scalable company	8	19
Having a financial modeling background	7	15
Creating a buyable company	5	6

Creating a minimum viable product is the first child theme. Thirteen founders created a minimum viable product in which they could either sell or use to attract investment dollars. Participant 10 stated:

> I started selling my services before I had a website. I was making money from selling these services, and then putting money into my business, which included finding someone to build a website and then someone to maintain it and run it. I never borrowed a cent from the bank or my husband or used our family money to build my business.

Participant 2 used a similar technique to build a minimum viable product using a PowerPoint and a PDF file she created for her clients. The file depicted the client's family leave and how much leave they could take. These files were used before she started coding the software for her family leave program. During artifact review, these files were shown to the researcher. This allowed for a minimum viable product she could show investors and potential clients without having to put a lot of money into the company. Once she had a few of the file's distributed to clients, she administered a survey to see what other information people wanted and then started offering that information to a few clients in the beginning at a discounted to raise money and test her product. Once the software was complete, she offered it as a product to the public and started raising money from investors. This was an example of using a minimum viable product to avoid premature scaling.

This idea aligned with the second and third child themes, creating a startup that can scale, but not too fast or too prematurely. The participants knew they could scale their operation by adding more products, more clients, or more market share, which called for increased investment dollars and selling more. Participant 14 said her "only job was to sell and bring in more money." She was able to do this by scaling the company, but "not too quickly," because that would cause "problems at one point when my software development team could not keep up with my needs." The founders were able to create companies that could scale into something larger but without prematurely scaling.

To do so, Participant 4 depicted how she used financial modeling to achieve most of her investment dollars. This came in the form of using many different types of

financial models. The financial models were shared with the researcher as artifacts. Financial modeling was also used by Participant 2 who said, "I learned financial modeling while working with Microsoft. It is an invaluable skill in any startup." Participant 15 was enrolled in Harvard Business School specifically for financial modeling because she knew how important it was to her high-growth success.

Last was creating a buyable company. Most startup companies' entrepreneurial aspirations are to sell their company or be acquired; five of the founders successfully sold one of their startups. One sold her company within 18 months of opening and the rest sold the company within a few years of inception. Participant 9 said "I sold my first company in my 20's and I am building this current company to do the same." Participant 2 exited her first startup after only 18 months, saying, "only 0.02% companies can exit at that stage." What created this quick buyout was marketplace regulations and her financial and business background. Taking financial responsibility for the company included creating something scalable and buyable while starting with a minimal viable product.

Building investor awareness through strong strategic partnerships. Many of the women founders discussed finding the right investors could be a daunting task. Therefore, being aware of who is "really going to fund you and who is not" is important. Table 19 shows this theme was found among 14 sources with a frequency of 77.

Table 19

Building Investor Awareness Through Strong Strategic Partnerships

Theme	Sources	Frequency
Building investor awareness through strong strategic partnerships	14	77

Investor awareness through strong strategic partnerships was depicted by 14 participants (93%). Participant 1 shared an experience that she believes was unlike what other startups went through, saying, "our company is very interesting, unusual, even bizarre. For example, our company had our Series B investor lined up. We had signatures for that Series B and then that investor disappeared and never provided the cash." Therefore, it is so important to create partnerships with investors over time. Participant 1 also stated, "there is no money in Seattle for what I do." This was a sentiment four other founders shared. Participant 13 said, "Finding an investor that is in the sector in which you need money for is hard in Seattle because the investors are mainly focused on software companies." She found most of her investments through grants and wished she had applied for the grants sooner. During artifact review, a few of the grant names and websites were shared with researcher. Grants were also vital to Participant 11 who used mostly grants to fund her business and some private funding.

Female focused investors were a common topic among the participants with one of them describing:

> Funds backed by females and only funded by females, probably are not the best place for funding. They have different goals and requirements. It's proven for me to be a challenge and helpful at the same time. It's a challenge because I must figure out how to filter out the noise and filter out the groups that are just talking to you because you are a female founder, but really just have no interest in my business.

Two of the founders described female-focused investors as being helpful because they gave them good advice and a few of the female investors are on their advisory

teams. Participant 14 took a proactive approach to create investor awareness through strong strategic partnerships and said:

> I did national studies on the demographics surrounding my company because I knew that eventually I'd have to raise money, and investors were going to question my credibility. I started putting all my money into research and development, making sure that I was able, if anybody called me out on a statistic or reason or a no, I could overcome that before I launched.

This helped her to raise the money she needed because she knew what the investors were going to ask. She logged many hours at angel investor events and decided they were not the right fit for her company because she was not looking to convince someone of her value. Therefore, she needed to find believers to fulfill her entrepreneurial aspirations and create strong partnerships with investors. She started traveling around the country to meet investors who met her investor demographic. This helped her create the investor relations she needed.

Participant 15 stated once investors were found, it was important to build "transparent, honest relationships with the board and the investors so they feel comfortable referring other people." This helped her get introduced to many other investors who funded her startup. Many of the participants also had experience in high-growth environments, which helped them with their entrepreneurial aspirations.

Experiencing a high-growth environment. For 13 participants (86%), prior high-growth experience was communicated through one of three main encounters: (1) the founder either worked internationally at Microsoft or another high-growth company, (2)

she worked at Microsoft in the U.S., or (3) she previously worked at another high-growth startup. Table 20 presents the number of sources, 24, and frequency of this theme, 66.

Table 20

Having Prior Experience in a High-Growth Environment

Theme	Sources	Frequency
Having prior experience in a high-growth environment	24	66

The participants exuded much enthusiasm when discussing their work experience in a high-growth environment. Participant 2 lived overseas and worked for Microsoft in Germany for many years. She said, "I was a part of a leadership development program, both on Tech and Finance, when I was living in London, which helped me with the skills needed to build a startup." She had her first child in Germany but returned to the U.S. for her second child. Upon returning, she noticed the "difference in family leave between the U.S. and Germany." She also paid attention to the new regulations regarding family leave when she moved back to Seattle. The experience she had overseas directly related to her understanding of the impact the new regulations would have in the U.S. and she saw an opportunity to create a high-growth startup. She said:

> Germany taught me a lot. They get six weeks of mandated vacation from the cashier to the executive, including the ability to earn overtime and they're still growing at a clip. They're not stagnant. Their economy is strong. I think you make better decisions when you're balanced like I had when I was in Germany.

Participant 11 had a similar experience working internationally for 13 years, including with the World Affairs Council (WAC). The WAC helped build her startup by

introducing international countries to her STEM program for girls in countries such as Brazil, India, and South Africa. Artifacts the researcher examined included the participant's website with information on the WAC and their partnership. She said, "The people from other countries come here and get trained, and then they bring it back to their country. We have everything online as well. Everything is transparent. We want people to use this program." Her program created an entrepreneurial aspiration as it is offered in numerous countries around the world.

Examples of participants having worked in high-growth environments includes six of the participants who worked at Microsoft. Participant 15's first job out of college was "recruiting software developers and system engineers, and then managing them on a contract basis at Microsoft." Participant 5 created her startup by first consulting with Microsoft and inventing a product by happen stance. She explained:

> I started my company as a consulting firm to support my day job as a Microsoft consultant. What if we create a small agency ourselves just to support Microsoft in this new product so that we can give people equity and we can give them all the fun cool stuff, that they'll want to be a part of a start-up. We wind up doing a massive project to support that primary company at Microsoft and then did a bunch of other projects and this created my company.

Participant 6's experience with Microsoft included meeting her co-founder through a mutual acquaintance that worked at Microsoft. Participant 8 worked at another high-growth technology startup that was acquired by Microsoft and then she went to work for Microsoft as part of the acquisition. Participant 7 worked for Microsoft for

nearly 15 years before she started her own technology company. Nine participants worked for other high-growth startups before they created their own.

Participant 12 experienced working with high-growth startups for almost "15 years before I established my own." She discussed "how you get to the point of being an executive in a startup by moving your way up and, carve out your path as an initial basis and then develop your own path to owning a startup." Participant 13 worked with other startups for four years before she realized they would never move the startup to high growth, saying "I simply had the technology expertise that they didn't have." That's when she started her company in 2015, and with the previous experience and entrepreneurial aspirations, she knew what she needed to produce success. Participant 14 worked in startups since the age of 21 and created four of them herself, with the last two being high-growth startups.

Strategically responding to investor questions. Participant 9 said "investors ask prevention rather than promotion questions to women founders while men they only ask promotion questions to." This generated a need to women founders to understand the difference and respond accordingly with a promotion response. As such, they had to be strategic in their pitches and responses. Table 21 presents the number of sources ,11, and frequency of references to this theme, 24. Eleven participants (73%) note this theme.

Table 21

Strategically Responding to Investor Questions

Theme	Sources	Frequency
Strategically respond to investor questions	11	24

Having a strategy when responding to investors was top of mind for Participant 13 who repeatedly was asked questions about her age and gender. She always put a

positive spin on the answer, explaining how "male founders get asked a lot more forward looking, positive, optimistic growth-oriented questions and female founders get asked, most exclusively, risk mitigation questions. And that is 100% of my experience." During this experience with fundraising, she changed the way she responds to investors, saying:

> I feel like I spent so much time in my fundraising defending my business as opposed to promoting my business and I'm really changing how to communicate in my Series A, which is a lot more opportunity and growth-focused answers to questions. Because when it comes down to it, by nature, I have de-risked so much more in my business than a lot of my colleagues. I've seen lots of other companies in my space fail, most of them founded by males and they go out and sell a big story and raise capital but then they can't deliver, and we've raised a little bit of capital and we've definitely delivered.

Participant 13 described strategically responding to investors was seen in Dana Kanze's 2017 *Ted Talk*. Kanze also wrote two *Harvard Business Review* journal articles containing specifics women can do to learn how to respond to these investors. Kanze et al. (2017) noted, "Women own 39% of the businesses in the U.S. and only get 2% of the venture funding." This could be solved in part by being aware of investor questions and strategically responding to them. The researcher was given the link to and watched the video.

As a women founder of a startup, being financially responsible for investor and sales dollars is key. These founders also formed investor awareness through strategic partnerships, had experience in high-growth environments, and strategically responded to

investors. They all had experiences that fell into the categories of entrepreneurial environment, entrepreneurial eco-system, and entrepreneurial aspirations to create their high-growth technology startup.

Summary

This chapter provided a review of the purpose statement, research questions, and methodology, including the data collection process, population, and sample. The data were then presented and findings from the interviews, electronic surveys, and artifacts described. This study used a mixed-methods designed to explore the experiences of women founders of high-growth technology companies in Seattle, Washington.

Fifteen themes emerged from the data and were aligned with the three sub-questions that explored critical startup factors related to entrepreneurial environment, entrepreneurial eco-system, and entrepreneurial aspirations. Chapter V offers the final summary of the study, which includes major findings, unexpected findings, and study conclusions. The findings and conclusions are followed by implications for action, recommendations for further research, and concluding remarks and reflections.

CHAPTER V: FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this mixed-methods study was to identify and describe critical startup factors of high-growth technology startups identified by women founders in Seattle, Washington. The central research question for the study was: *What are the critical startup factors of high-growth technology startups identified by women founders in Seattle, WA*? This was further delimitated into three sub-questions:

1. What are the critical startup factors related to entrepreneurial environment for high-growth technology startups as identified by women founders in Seattle?
2. What are the critical startup factors related to entrepreneurial eco-system for high-growth technology startups as identified by women founders in Seattle?
3. What are the critical startup factors related to entrepreneurial aspirations for high-growth technology startups as identified by women founders in Seattle?

For this study, the population was defined as women-founded companies in Seattle. The population was approximately 118,300 (American Express, 2016). The target population was women-owned technology companies in the Seattle area, which is only 3.8% of the 118,300 companies (Atkinson & Wu, 2017). Therefore, the target population was 4,495 women-owned technology companies. The sample was 15 women founders of technology startups in the Seattle area.

Criteria for selecting the 15 participants were: (a) women founders in high-growth technology companies, (b) startup was in existence for less than 10 years, and (c) startup is a high-growth technology company in Seattle. This study described the factors that were influential in the success in their startup.

Major Findings

Based on the data collected, and using the sub-questions as a framework, the researcher made the following assertions regarding the critical startup factors of high-growth technology startups identified by women founders in Seattle. Face-to face interviews were conducted with and electronic surveys administered to 15 founders of high-growth technology startups in Seattle. Artifacts were also collected and reviewed. The interviews consisted of open-ended questions about the founder's experiences, with questions based on the Female Entrepreneurial Index (FEI) of 2015 as a framework. Interviews were conducted, recorded, and transcribed, and then coded and analyzed for major themes and patterns. The electronic surveys and artifacts were tabulated and included in major findings as well.

Critical Startup Factors Related to Entrepreneurial Environment

Research Sub-Question 1 was: *What are the critical startup factors related to entrepreneurial environment of high-growth technology startups identified by women founders in Seattle, WA*? The first major finding was women founders of high-growth technology startups in Seattle foster a strong support system to develop and solidify their professional brand. The founders fostered different types of support systems, including family and friends, business-related classes, networking groups, and coaches. Approximately 73% of the respondents used some type of coach, such as a life coach, style coach, or psychology coach. The electronic survey supported the interview questions with every participant marking either *Agree* or *Strongly Agree* to the question their support network was an important part of creating a high-growth startup.

The second major finding from the study was women founders of high-growth technology startups in Seattle were intuitive and demonstrate high emotional intelligence (EI). All 15 participants exuded some level of intuitiveness and EI. The participants created a strong and healthy presence about being a woman in a male dominated industry, with only 20% of technology jobs in the U.S. held by women (Small Business Trends, 2018).

The third major finding was innovation in the women-founded high-growth technology startup was driven by marketplace and regulation changes. Along with this, the women founders were able to strategically recognize these marketplace or regulation changes as a new opportunity, which was used to establish their startup and later become high growth.

Critical Startup Factors Related to Entrepreneurial Eco-System

Research Sub-Question 2 asked: *What are the critical startup factors related to entrepreneurial eco-system of high-growth technology startups identified by women founders in Seattle, WA*? The first major finding included hiring a team that filled in the founder's knowledge gaps. For example, one founder hired doctoral-level engineers who had been in the technology industry for many years.

The second major finding was that 9 of 15 founders used male influence to help them navigate the startup landscape. Many of them found this influence through their personal and professional networks. They mainly used these male allies to help them acquire funding as 10 of the 19 references to this theme suggested. Also, 67% of the women expressed in the survey being a woman hindered them in receiving funding.

The third finding of Sub-Question 2 was that gender gaps were a factor in women-founded high-growth technology companies in Seattle. Six participants mentioned gender gaps as a factor in their high-growth startup. These gaps included funding, with 67% of the women expressing on the survey being a woman hindered them in receiving funding.

Critical Startup Factors Related to Entrepreneurial Aspirations

Research Sub-Question 3 asked: *What are the critical startup factors related to entrepreneurial aspirations of high-growth technology startups identified by women founders in Seattle, WA*? Women-founders taking financial responsibility for the company was the first major finding. For these founders, avoiding premature scaling while creating a buyable and scalable company was the goal. They also created a minimum viable product and 13 of 15 participants had a background in financial modeling.

The second major finding was investor awareness through strong strategic partnerships. These partnerships were made over time for 33% of the participants. The founders understood investment into their companies was going to be one of the hardest factors, of which 14 of 15 described during the interviews.

The third major finding was the women founders had experience in high-growth environments. They worked for Microsoft or other high-growth startups. As Microsoft is a Seattle-based company, 40% of the founders previously worked for Microsoft and nine of them had worked for other high-growth startups.

The last major finding was successful women founders strategically respond to investors. Investors ask mainly two types of questions, promotion or prevention (i.e., risk

mitigation). The respondents reported knowing how to strategically respond to these questions was imperative to receiving funding.

Unexpected Findings

Three unexpected findings emerged. The first unexpected finding was women investors were not as helpful as was anticipated. The founders understood why this might be the case because the women investors knew how hard it was to get to their position in life as a female investor. For the researcher, this was unexpected. Being a woman, the researcher thought other women would want to invest in women-founders even more than men, but this was not the case. The women investors had easier questions from the male founders and males also invested more money in their companies.

The second unexpected finding was that 7 of 15 women founders said, "there is no money in Seattle for my company." The two main reasons for this was because (1) most of the investors in Seattle are men and women rarely get the investment, and (2) there is limited funding for their type of technology startup. Most of the money goes to software companies, which was confirmed by two women founders with software companies who had no problem receiving funds for their company.

The last unexpected finding was that many of the women only recently understood they were different and technology startups is a man's world. Many of the women founders had startups before and just recently realized having a startup in the technology field was different and their chance of receiving funding for their startup was low compared to that of a man. This was unexpected for the researcher because the literature showed women do not receive near as much funding; therefore, it was assumed

this was something the founders would understand. Many of them were unaware because of past experiences with other startups in different sectors such as the food and clothing industry that raised capital with no issue.

Conclusions

This study identified the critical startup factors related to the entrepreneurial environment, eco-system, and aspirations of high-growth technology startups identified by women founders in Seattle. Results from the study showed women founders must have a support system, be intuitive with a high EI, and understand innovation is driven by marketplace and regulation changes that create recognizable opportunities. They must use male influencers to help them navigate the startup landscape, recognize gender gaps during the funding process, display financial responsibility, and create investor awareness through strong strategic partnerships. Lastly the women founders had prior experience in high-growth environments and knew how to strategically respond to investor questions. The following conclusions were drawn for the data and literature review.

Conclusion 1: Women Founders are More Likely to be Successful During Turbulent Times with a Strong Support System

Based on the major finding women founders fostered strong support systems to develop and solidify their identity, it was concluded women founders are more likely to be successful during turbulent times with a strong support system. Approximately 60% of participants noted on the survey support from their spouse and family helped them build their business during difficult times. This strong support system was built before and during the initial phases of forming the startup. One way the support system was

built was through intentional outreach with other like-minded professionals. A list of these professional networks is in Appendix G.

Conclusion 2: Women Founders Must use EI Before and During the Hiring Process to Create a Culture of Trust and Corporate Responsibility

Based of the major finding women founders had intuitiveness and high EI, it was concluded to create a culture of trust and corporate responsibility, they must engage in their own EI before and during the hiring process. Many founders took tests such as Myers Briggs, DISQ, and EQ to understand themselves. These tests gave insight into self-awareness to understand the founders working habits, who they need to hire to fill in knowledge gaps, and how best to structure their culture.

Conclusion 3: To Identify a Unique Niche in the Technology Sector, Women Founders need to Complete an Environmental Scan on Marketplace and Regulation Changes to Discover Opportunities

Based on the major finding marketplace and regulations changes are important factors to women-founded technology startups in Seattle, it was concluded women founders need to complete environmental scan on marketplace and regulation changes to identify a unique niche in the technology sector. Many changes are occurring daily, which can make it difficult to discern which are good opportunities. This research study showed 67% of the women founders used marketplace and regulation change to build their startup according to survey results. An environmental scan could be done by each founder and is needed to find the sustainable opportunities to create high-growth startups.

Conclusion 4: To Retain Investment Capital, Women Founders Need to Leverage Male Influencers to Help Pitch their Startup to Potential Funders and Fill in Gender Gaps

One major finding was male influencers were used to help navigate the startup landscape. Based on this finding, it was concluded to retain investment capital, women founders need to leverage male influencers to help pitch their startup to potential funders and fill in gender gaps. These male influencers were vital to over 66% of the women founders, which helped them reach networks of other male influencers who could help with hiring, partnerships, investment capital, and new clientele.

Conclusion 5: To Retain Investment Capital, Women Founders Must Create a Minimum Viable Product with Satisfactory Features for Early Customers, which Provides Feedback for Future Product Development

Based on the major finding women founders of technology startups were financially responsible, it was concluded this responsibility was conducive to creating a minimum viable product with satisfactory features for early customers, which provided feedback for future product development**.** Over 90% of the women founders created a minimum viable product, which was tested by the market and feedback was given.

Conclusion 6: Women Founders with Experience Working for High-growth Companies like Microsoft have a Framework for Creating a High-growth Company

Based on the major finding women founders had experience in high-growth environments, it was concluded women founders with experience working for/with high-growth companies like Microsoft had a framework for creating a high-growth company. Women founders of technology companies need to work with, work for, and work in

high-growth environments. The study supported the need for prior experience in successful environments for the women founders to achieve success.

Conclusion 7: Women Founders who are Mindful of Promotion and Prevention Investor Questions are more likely to Secure Startup Funding

Based on the major finding women founders strategically responded to investor questions, and three of the women founders only recently understood this differentiation in questioning was because they were women, it was concluded women founders need to understand the difference between promotion and prevention questioning from investors. Then, they need to respond in a promotion-based rather than prevention-based way. This could make the difference in receiving investment capital.

Conclusion 8: Women Investors need more Awareness of Women-Founded Technology Startup Needs to Diversify their Investments in these Startups

Based on the unexpected finding women investors were not as helpful as anticipated, it was concluded women investors need more awareness of women-founded technology startup needs to diversify their investments in these startups. The needs of the women founders should to be explored by women investors. In return, women founders must understand how to attract more women investors and other investors to their startup for funding.

Conclusion 9: Seattle has a Market Need for Types of Technology Startup Investors in Addition to Software Investors

Based on the unexpected finding of limited funding in Seattle for women founders, it was concluded Seattle has a market need for other types of technology startups investors, in addition to software investors. Two-thirds of the women founders

felt there was not money in Seattle for them and they received funding from outside the area. The need for investment into technology startups needs to widen its breadth from just software companies to the other nine types of technology-based industries.

Conclusion 10: A Culture Shift is Needed to Level the Playing Field for Women Technology Startup Founders

Based on the unexpected finding women founders only recently understood they were different and technology startups are a man's world, it was concluded a culture shift is needed to level the playing field for women technology founders. This shift would teach founders, investors, and the public gender gaps and inequality still exist. Three of the founders only recently discovered the gender gaps and inequality for women founders of technology companies. They explained they were simply unaware of the gender gaps that occurred in technology startups.

Implications for Action

Grounded on the study findings and conclusions, twelve implications for action were generated.

Implication for Action 1: Entrepreneurs Organization should Form a Taskforce to Create a Women's Startup Support Network

Based on the theme women founders had experience in high growth environments and fostered a strong support system to develop and solidify their identity, it was concluded women founders must build a strong support system through intentional outreach with other like-minded professionals. Therefore, it is recommended the Entrepreneurs Organization (EO) form a taskforce to create a women's startup support network. Given EO meetings were attended by four of the women founders and they felt

success with the network, EO could create a separate support group just for women founders with fewer restrictions, thus creating collaboration at all stages of startups. This would also allow future women founders and current founders to gain experience working in high-growth environments through work study and internship programs.

Implication for Action 2: Taskforce Development of EI Self-Assessment

Based on the finding women founders hired to fill in knowledge gaps and exuded a high-level of EI, the conclusion women founders need to understand themselves personally and professionally was drawn. Thus, women founders should take a self-assessment to identify their strengths and improve their personal and professional understanding. A committee of women founders, researchers, statisticians, EI experts, and personal and professional psychologists needs to be formed to create a test women founders can use to understand where to fill in their professional gaps when hiring and teach them in what areas they exceed in EI and where they need to improve.

Implication for Action 3: Taskforce Works with Women Founders to Develop a Personal Development EI Plan Based on the results of the Self-Assessment

After the women founders complete the EI self-assessment, they should use the Personal Development EI Plan to develop their areas of emphasis. Actions derived from the plan include coaching and mentorship from other women founders. Other areas may include networking, reading, hiring a coach, finding a male ally, and taking course from the Women's Center for Business. Founders should develop five-years growth plans then re-take the assessment to develop another strength.

Implication for Action 4: Economic Development Council Should Develop a Seattle-Based Quarterly Innovation and Regulation Symposium

Based on the finding the startups were driven by marketplace and regulation changes, a symposium of the latest regulatory and marketplace changes needs to be created for women entrepreneurs. This symposium would create an atmosphere for women to strategically recognize an opportunity, which is needed given this study showed regulation and marketplace changes were important drivers of high-growth startups.

Many symposiums exist for different sectors, but none specifically for women entrepreneurs who want to stay current with the marketplace. The symposium would be quarterly in the Seattle area and include speakers to discuss regulation and marketplace changes in technology. Investors interested in investing in women-led startups could attend. Awards should be given for the best new woman-founded company, best new marketplace idea, and best investment firms for women.

Implication for Action 5: American Small Business Development Center Should Develop a Pipeline for Women to Network with Male Influencers

Based on the themes of gender gaps and founders using male influence to navigate the startup landscape, it was concluded to retain investments, women founders need to leverage male influencers to help pitch their startup to potential funders and fill in gender gaps. Therefore, women founders need a place to help them find male influencers. Based on the research, 9 of 15 participants used help from a male influencer. These influencers should be accessible through the local American Small Business Development Center (ASBDC). After meeting with the ASBDC, they agreed startup

funding was one of the hardest sectors for the Center to identify funds. On top of that, this study showed gender gaps made it more difficult for women. The implication for action proposed includes webinars, in-person classes, and annual conferences focused on one of more of the 15 themes from this studies research. The webinars and classes could be titled *How to Build a Startup for Women Entrepreneurs,* with three main domains corresponding to major themes of this study (Table 22).

Table 22

Major Themes by Sub-Question

Sub-Question	Major Themes
Sub-Question 1: Critical Startup Factors Related to the Entrepreneurial Environment	1: Foster a strong support system to develop and solidify their identity 2: Intuitive and high EI 3: Innovation driven by marketplace and regulation changes 4: Strategically recognized a new opportunity 5: Quitting was never an option 6: Normalized feedback to create a culture of trust 7: Strong spiritual practice
Sub-Question 2: Critical Startup Factors Related to the Entrepreneurial Eco-System	1: Hired a team that filled the founder's gaps 2: Created organizational front-line responsibility and accountability 3: Used male influence to navigate the startup landscape 4: Gender Gaps
Sub-Question 3: Critical Startup Factors Related to Entrepreneurial Aspirations	1: Financial responsibility for the startup 2: Investor awareness through strong strategic partnerships 3: Experience in a high-growth environment 4: Strategically respond to investor questions

Implication for Action 6: Governments Offer Minimum Viable Product Grants Through the SBA

Based on the theme taking financial responsibility for the company and the conclusion to retain investment capital, women founders must create a minimum viable

product with satisfactory features for early customers, which provides feedback for future product development. The government offers financial grants to produce minimum viable products to foster a community of startup growth. Evidence from this study showed a lack of funding for women in technology startups. Grants should be available to women founders of technology startups and used to create minimum viable products.

Implication for Action 7: High-growth Companies in Seattle should Form an Incubator Called *The Next Step to Success,* Providing Women Opportunities to Form their own High-growth Startup

Based on the theme women founders had experience in high-growth environments, it was concluded women founders with experience working for/with high-growth companies like Microsoft have a framework for creating a high-growth company. This framework is conducive for filling in hiring gaps, creating financial responsibility, understanding investors, and creating a support network of male influencers and potential investors. *The Next Step to Success* would teach women how to build their own business through identifying marketplace and regulation changes, acknowledging their strengths and weaknesses in EI, and helping bridge the gender gap.

Implication for Action 8: Women's Center for Business should Offer a Training for Women Founders to Develop Promotion-Focused Business Plans

Based on the theme women founders strategically respond to investors, it was concluded women founders mindful of promotion and prevention investor questions are more likely to secure startup funding. As part of the classes at the Women's Center for Business (WCB), women should learn the skills needed for financial responsibility within their startup, including financial modeling, how to create a minimal

viable product, and how to scale a company to make it buyable. Women founders in this study also suggested understanding the difference between promotion and prevention investor questions was significant. Training women how to respond to these types of questions is recommended. WCB classes could be taught locally and eventually nationally.

Implication for Action 9: Women Investors should Hold Quarterly Focus Groups to Identify Current Needs of Women-Founded Technology Startups

Based on the theme of investor awareness through strong strategic partnerships, it was concluded for women investors to diversify their investments in Seattle technology startups, they need to be more aware of the landscape of women-founded technology startup needs. Therefore, it is recommended women investors hold quarterly focus groups to identify current needs for women-founded tech startups. These focus groups could be held at different women-founded startups in the Seattle area and include dialogue with women founders and investors to determine the needs of both. The investors could start with the 15 major themes within this study to discover gaps in the startup and identify which areas they have expertise to mentor and coach founders.

Implication for Action 10: Devise an Index of Seattle Technology Investors for all 10 Types of Technology Startups

Based on the unexpected finding there is no money in Seattle for women founders, it was determined Pitchbook should devise an index of Seattle technology investors for all 10 types of technology-based industries. This index should include other cities throughout the U.S. as 9 of 15 founders had investors outside of Seattle. This list could include investor demographic information, how much they want to invest, whether

is it debt or equity financing, what sectors they invest in, what stage of startups they work with, years of experience working with startups, and whether they are willing to invest in women founders. The reason these founders in Seattle were so successful was because they were aware of the type of investors in Seattle and created a strong strategic partnership within and outside the Seattle area. Information from the index would help develop strong strategic partnerships. This index is recommended for women founders to find the right investors and for investors to find the right investments.

Implication for Action 11: Create a Social Movement Featured in Media Forums such as 20/20 and 60 Minutes

Based on the unexpected finding women founders only recently understood they were different and technology startups are a man's world, it was concluded a cultural shift is needed within founders, investors, and the public. This awareness could occur using the social change model to create gender equity.

This implication parallels with women startups only receiving 3% of venture funding yet achieving 10% more revenue with half the amount of money (American Express, 2016). Increasing the percentage of women funded could change with individuals, society, and investor values being similar enough to create social change. This change is needed to increase awareness regarding the need for women to receive more funding. The social movement should include widely viewed media stations such as 20/20 and 60 Minutes showcasing research from this study and one of the startups that had issues with funding and gender gaps because of being a woman founder.

Implication for Action 12: Partner with Influential Organizations like Next Gen Hero, Ignite Worldwide, and Zonta

Based on the theme gender gaps still exist, partnering with organizations like Next Gen Hero to interview women-founded businesses and create awareness would narrow the gender gap for women participation in technology, Fintech, and entrepreneurship. The partnerships could ignite a cultural shift to level the playing field for women with influential group participation from Ignite Worldwide and Zonta to produce a program for girls on how to establish a high-growth company in the U.S. and around the world using the 15 themes from this research. Partnerships could entail writing journal articles and live speeches with influential leaders. Local Zonta groups could use the 15 themes to train non-profit women-owned organizations on how to become high-growth companies.

Recommendation for Further Research

Recommendation 1: Replicate a Mixed Method Study with Women Founders in the Clothing and Food Industries

The first recommendation for further research would be to do a comparative analysis to see if women in other sectors of business exude the same factors of a high-growth startup as women founders of technology startups. It is suggested this study be replicated with interviews, surveys, and artifacts of women founders in other sectors. The results of this study could be compared to factors women founders face in technology startups to understand if there are similar barriers to success. This information could help women founders and investors determine what creates high-growth startups in other sectors.

Recommendation 2: Replicate a Mixed Method Study with Women Founders of High-Growth Technology Startups in Other Cities

Other cities around the U.S. would be interesting to research, including the Silicon Valley area, Austin, Denver, Miami, and New York. A comparative analysis of factors that contribute to women-founded high-growth technology startups in other cities is needed. When women founders are looking for investment dollars, mentors, networks, and cities to start a business, these factors of the study could be imperative to them.

Recommendation 3: Replicate a Mixed Method Study with Male Technology Founders of High-Growth Technology Startups

This study was conducted with only women founders. It is suggested the study be replicated with male founders of high-growth technology startups in Seattle. It would be interesting to understand the factors that create high-growth startups for males to identify if many of the struggles the women had were specifically related to gender.

Recommendation 4: Complete a Phenomenological Study with Women Investors to Understand their Successes and Barriers when Investing in Companies

Three participants said they would like to understand women investors in more detail. Women investors did not come out favorably in this study as many participants noted they were harder on them than male investors. It would be interesting to know their thoughts on investing and how they pick a company to invest in, especially compared to male investors. Thus, it is recommended a study be conducted looking at male versus female investors and how the factors they use to decide whether to invest in startups.

Recommendation 5: Complete a Phenomenological Study with Male Investors to Understand how and why they Invest in Companies

Although many male investors tell women founders how they invest, it would be good to know why the male investors who invest with women founders do so. This would help in understanding what they are looking for, bias when picking investments, and why they only invest in 3% of women (Women Who Tech, 2018). This information is needed for women founders to understand how to better serve male investors.

Recommendation 6: Complete a Mixed Method Study with Women Founders who Successfully Exited Startups

Six participants successfully exited a startup. They gave insight into how they did it, how long it took, and the factors that got them there. With only a small sample size coming from this study, it is recommended more women who successfully exited a startup be studied. The factors that created their success are still unknown. These factors could include who they got investment dollars from and their strategy.

Recommendation 7: Replicate a Mixed Method Study with Women Founders who Were Unsuccessful in their Technology Startup

Many women founders had the opposite experience as those researched in this study. As this research was on the success of women-founded startups, it would be advantageous to examine the lived experiences of unsuccessful women founders. Over 50% of U.S. companies fail after five years and over 70% after 10 years (Statistic Brain, 2017). Knowing how and why they failed could help other women founders not make the same mistakes and create success.

Concluding Remarks and Reflections

Women founders of technology startups struggle to reach a high-growth state, which can be grueling and not for the faint at heart. As a few of the participants stated, building a technology startup was the hardest thing they have done. Therefore, it is important to further this research. Is it as hard being a woman founder in other industries such as clothing and food where women are more prominent, or do they have the same struggles?

In the 21st century, we would think women would have equal rights, say, pay, and justice, but they do not. Especially in the technology sector. Without social change and government regulation for investors, the issue with private funding for women will continue. Education is needed to teach investors and the public women create more revenue with less investment. Studies show this and it is time for a change.

As a women founder in technology myself, this study was eye opening and exhilarating. I went through many of the same struggles as these women. Just recently I was told I did not get investment money because I was a woman. A man told me this to my face. This is the sort of bias and discrimination that more research such as this study is aimed to demolish. "There are simply more deals that need funding then dollars to invest" one of the participants said. With the research from this study and other studies, we now better understand how to create a high-growth startup.

The last statement I want to make is how important education is to be a successful woman founder and productive part of society. Without education like the EdD, reading books on entrepreneurship, and taking classes regarding financial modeling, my company would have been in jeopardy of closing. That is why this study's research needs to be

disseminated throughout the U.S. This last five years has been the hardest of my life founding a technology startup and being in a doctorate program; I do not recommend it. I was challenged, exhausted to no end, beat down, and every time I picked myself back up. This is what many of these women did, but with an index of investors, male allies, and funds for minimum viable products, the funding discrepancy between males and females can diminish. As Ginni Rometty, CEO of IBM, stated, "Power is taking action in a moment that could make you feel powerless. Never let anyone define you. Only you define who you are."

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APPENDICES

APPENDIX A – INTERVIEW QUESTIONS

Preparing for Interview:

Today you will be participating in an interview for Renee Gillard's dissertation. This interview is voluntary and not mandatory. We can stop and take a break at any time, should you want or need a break. I have provided you the Brandman University Participant's Bill of Rights as well as the Informed Consent form. This interview will take approximately 60 minutes. I will start with some scripted questions but will follow up with questions where more detail is needed. This interview will be audio recorded so that I can accurately transcribe the responses. Also, your name will be redacted so that responses are anonymous. I encourage you to share openly. Do you have any questions related to today's interview?

Interview Questions:

Entrepreneurial Environment

For this study, the term "entrepreneurial environment" is defined as; opportunity perception, startup skills, willingness and risk, networking and cultural support. We will explore the topic of entrepreneurial environment through the following interview questions. I would like to encourage you to share openly, honestly and elaborate with examples where you see fit. Please feel free to share anything.

1. What are some of the skills you believe you must have to create a high-growth business?
    - Prompts/Follow Up Questions: What were some of the fears that came up? How did your network play a part in your success? Do you think being a woman has hindered your chances of success? Why or why not? Tell me about access to childcare and family life and the role that plays in your success?

Entrepreneurial Ecosystem

For this next interview questions, the term "entrepreneurial eco-system" is defined as; opportunity startups, technology sector startups, quality of human resources, competition, and gender gaps. We will explore the topic of entrepreneurial eco-system through the following interview questions. I would like to encourage you to share openly, honestly and elaborate with examples where you see fit. Please feel free to share anything.

2. What is your level of schooling and how has this impacted your business? Tell me about being a female entrepreneur and how that has impacted your business either positively or negatively?
    - Prompts/ Follow Up Questions: What is the level of schooling for most of your employees and has their level of expertise and human- capital impacted your business and how?

Entrepreneurial Aspirations

For this next interview questions, the term "entrepreneurial aspirations" is defined as; product innovation, process innovation, high-growth, internationalization, and external financing. We will explore the topic of entrepreneurial aspirations through the

following interview questions. I would like to encourage you to share openly, honestly and elaborate with examples where you see fit. Please feel free to share anything.

3. Tell me about your access to capital?
    - Prompts/ Follow Up Questions: How has this capital been structured? …Debt and/or equity? Do you feel like being a woman has helped or hindered your financing?

When the interview ended, the researcher thanked the participant and explained the next steps for them to review the transcript in the next few weeks. The researcher explained they would take the final report of themes back to the interviewees and determined whether they felt they were accurate. The report entailed follow-up interviews with participants of the study and provided the opportunity for interviewee to check their interview transcript for accuracy. The follow-up interview was done at the interviewee's place of business.

APPENDIX B – ELECTRONIC SURVEY

Survey Questions

1. How old are you?
2. How long have you been working with startups?
3. How long have you been a founder of a startup?
4. How many startups have you worked with?
5. What type of technology startup are you currently working with? Please circle all that apply
    a. Aerospace Products & Parts
    b. Computer and Electronics
    c. Pharmaceuticals and Medicine
    d. Medical Devices
    e. Semiconductor Components
    f. Semiconductor Machinery
    g. Computer Systems and Design
    h. Data Processing
    i. Software Publishing
    j. Scientific Research and Development (R&D)
    k. Other please specify

Using a Scale of 1 to 5 with 1 being strongly disagree, 2 disagree, 3 Neither or N/A, 4 agree, and 5 strongly agree please put a number next to the 15 questions.

6. When you first were introduced to the startup you founded did you know this opportunity would become a high-growth startup? ___
7. Do you believe you have the startup skills necessary to create a high-growth startup? ___
8. Do you believe you have the willingness and risk-taking ability to create a high-growth startup? ___
9. Has your business network been an important part to your high-growth startup? ____
10. Have you had the support at home including but not limited to childcare needed to create your high-growth startup? ___
11. Do you believe government regulations have caused your startup any problems? ___
12. Do you believe being a woman in the technology industry has helped you? ___
13. Do you believe your level of education has helped you in creating a high-growth startup? ___
14. Has competition played a part in the creation of your high-growth startup? ___
15. Do you believe being a woman has helped you to build your business? ___
16. Do you believe your product or service is a breakthrough or disruptive technology? ___
17. Has research and development played a role in your technology startup? ___
18. Do you believe you are a high-growth technology company? ____
19. Is your startup serving customers and clients outside of the United States? ___
20. Has being a woman helped you to get external financing? ___

APPENDIX C– INVITATION TO PARTICIPATE

INVITATION TO PARTICIPATE

Date: 12.25.2018
Dear Founder:

My name is Renee Gillard and I am a Doctoral Candidate in the School of Education at Brandman University conducting a study on women founders of high-growth technology companies in the Seattle, WA area. I am asking your assistance in the study by participating in an interview, and an emailed electronic survey. The interview will take about 60 minutes and about 15 minutes for the electronic survey, you may be assured that it will be completely confidential. No names will be attached to any notes or records from the interview. All information will remain in locked files accessible only to the researchers. No other company, or employee will have access to the interview and observation information. You will be free to stop the interview, and/or electronic survey and withdraw from the study at any time. Further, you may be assured that the researchers are not in any way affiliated with any organization that might hinder your company. This research will help further knowledge on factors needed for women founders of high-growth technology startups to be successful. The Brandman University Institutional Review Board may be contacted either by telephoning the Office of Academic Affairs at (949) 341-9937 or by writing to the Vice Chancellor of Academic Affairs, Brandman University, 16355 Laguna Canyon Road, Irvine, CA, 92618 if you have any questions that Renee cannot answer. Your participation would be greatly valued.

Sincerely,

Renee Gillard

APPENDIX D – RESEARCH PARTICIPANT'S BILL OF RIGHTS

BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD

Research Participant's Bill of Rights

Any person who is requested to consent to participate as a subject in an experiment, or who is requested to consent on behalf of another, has the following rights:

1. To be told what the study is attempting to discover.

2. To be told what will happen in the study and whether any of the procedures, drugs or devices are different from what would be used in standard practice.

3. To be told about the risks, side effects or discomforts of the things that may happen to him/her.

4. To be told if he/she can expect any benefit from participating and, if so, what the benefits might be.

5. To be told what other choices he/she has and how they may be better or worse than being in the study.

6. To be allowed to ask any questions concerning the study both before agreeing to be involved and during the study.

7. To be told what sort of medical treatment is available if any complications arise.

8. To refuse to participate at all before or after the study is started without any adverse effects.

9. To receive a copy of the signed and dated consent form.

10. To be free of pressures when considering whether he/she wishes to agree to be in the study.

If at any time you have questions regarding a research study, you should ask the researchers to answer them. You also may contact the Brandman University Institutional Review Board, which is concerned with the protection of volunteers in research projects. The Brandman University Institutional Review Board may be contacted either by telephoning the Office of Academic Affairs at (949) 341-9937 or by writing to the Vice Chancellor of Academic Affairs, Brandman University, 16355 Laguna Canyon Road, Irvine, CA, 92618.

Brandman University IRB Adopted November 2013 B

APPENDIX E – INFORMED CONSENT

INFORMED CONSENT FORM INFORMATION ABOUT: Factors of Women-Founded High-Growth Technology Startups

RESPONSIBLE INVESTIGATOR: Renee Gillard, MAOL

PURPOSE OF STUDY: You are being asked to participate in a research study conducted by Renee Gillard, MAOL a doctoral student from the School of Education at Brandman University. The purpose of this research study is to identify and describe critical startup factors of high-growth technology startups identified by women founders in Seattle, WA.

By participating in this study, I agree to participate in an interview(s) will last approximately 60 minutes and will be conducted in person. This interview will be scheduled at a prior date and time. The interview questions will pertain to your perceptions and your responses will be confidential. In addition, participants will be asked to take part in an electronic survey emailed to the participant. Each participant will have an identifying code and names will not be used in data analysis. The results of this study will be used for scholarly purposes only.

I understand that:
a) There are minimal risks associated with participating in this research. I understand that the Investigator will protect my confidentiality by keeping the identifying codes and research materials in a locked file drawer that is available only to the researcher.
b) I understand that the interview will be audio recorded. The recordings will be available only to the researcher and the professional transcriptionist. The audio recordings will be used to capture the interview dialogue and to ensure the accuracy of the information collected during the interview. All information will be identifier-redacted, and my confidentiality will be maintained. Upon completion of the study all recordings, transcripts and notes taken by the researcher and transcripts from the interview will be destroyed.
c) The possible benefit of this study to me is that my input may help add to the research regarding women founders of high-growth technology starts in Seattle, WA. The findings will be available to me at the conclusion of the study and will provide new insights about the experience in which I participated. I understand that I will not be compensated for my participation.
d) If you have any questions or concerns about the research, please feel free to contact Renee Gillard at [redacted] or by phone at [redacted]; or Dr. Jeff Lee (Advisor) at [redacted].
e) My participation in this research study is voluntary. I may decide to not participate in the study, and I can withdraw at any time. I can also decide not to answer particular questions during the interview if I so choose. I understand that I may refuse to participate or may withdraw from this study at any time without any negative consequences. Also, the Investigator may stop the study at any time.
f) No information that identifies me will be released without my separate consent and that all identifiable information will be protected to the limits allowed by law. If the study design or the use of the data is to be changed, I will be so informed, and my consent re-obtained. I understand that if I have any questions, comments, or concerns about the study or the informed consent process, I may write or call the Office of the Vice Chancellor of Academic Affairs, Brandman University, at 16355 Laguna Canyon Road, Irvine, CA 92618, (949) 341-9937.

I acknowledge that I have received a copy of this form and the "Research Participant's Bill of Rights" BUIRB Written Informed Consent. I have read the above and understand it and hereby consent to the procedure(s) set forth. Signature of Participant or Responsible Party Signature of Principal Investigator Date.

_____ Date:_____
Signature of Participant or Responsible Party

_____ Date:_____
Signature of Principal Investigator

APPENDIX F – TRANSCRIPTIONIST CONFIDENTIALITY FORM

Transcriptionist Confidentiality Form

RESEARCH STUDY TITLE: Factors of Women-Founded High-Growth Technology Startups.

I, _____, agree to serve as a transcriptionist for the above titled research study. I understand that my role during the study is only to transcribe the audio for each one-on- one interview. I understand the importance of maintaining confidentiality of the study participants; therefore, I will not share any information about the individuals participating in the above study that will connect them to any data gathered and transcribed during the one-on-one interviews or reported in the final dissertation.

_____ Date:_____
Transcriptionist Signature

_____ Date:_____
Researcher Signature

APPENDIX G – ARTIFACTS

Artifacts		
Books	**Classes**	**Networking Groups in Seattle, WA**
Slicing the Pie	Presentation Dynamics- Context International	EO
Blink	Landmark Forum	Female Founder Alliance
Venture Deal	Paul Betton Leadership 6	Start-Up Health
Daring to Leave	How to Build a Startup- Steve Blank	Women's Presidents Organization
Scaling Up	How to Start a Startup-Y Combinator	Business Among moms
Rockefeller Habits	Engaging and Retaining Talent- Archbright	Illuminating Women
Drive	Feedback for Success- Archbright	Association for Women Owned Businesses
Profit First	The Work for Leaders- Archbright	Ignite Worldwide
Vern Harnish- E Myth	Executive Presence for Women- American Management Association (AMM)	New Tech Seattle, Bellevue, Tacoma
Processes as creating them	Leadership Development for Women- AMM	Tech Stars
Top Grading for good hiring	Strategies for Influencing Others- Archbright	Clean Tech Alliance
From Good to Great	Women's Leadership Certificate Program- AMM	Alliance of Angels
Man- Six Sigma	Emotional Intelligence at Work- Archbright	Element 8
Never lose a customer again	Be the Visionary- Greater Seattle SCORE	Riveter
Lean Startup		Y Combinator
48 Laws of Power		Pitchbook
Leadership and Self Deception		
Win		