

FROM ASPIRATION TO ACTION: UNDERSTANDING THE CHARACTERISTICS THAT
ENABLE FIRST-GENERATION ENTREPRENEURS TO START AND NAVIGATE EARLY
VENTURES IN THE DIGITAL AGE

by

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DEDICATION

I give thanks to God above all else for the purpose and calling He placed in my heart to serve entrepreneurs. I am deeply grateful to my wife, parents, brothers, and the rest of my family for their unwavering encouragement and support throughout this journey both academically but more importantly, throughout my 15-year entrepreneurial journey thus far. The path getting here was neither easy nor short, but it shaped everything this work represents. My sincere hope is that the findings reported here serve as a catalyst to further empower entrepreneurs around the world.

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ABSTRACT

FROM ASPIRATION TO ACTION: UNDERSTANDING THE CHARACTERISTICS THAT ENABLE FIRST-GENERATION ENTREPRENEURS TO START AND NAVIGATE EARLY VENTURES IN THE DIGITAL AGE

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This dissertation examines the characteristics that enable first-generation entrepreneurs to transition from aspiration to action and persist through the early stages of their ventures in the digital age. First-generation entrepreneurs, defined as those who start businesses without prior family business experience, face unique challenges including the absence of inherited networks, mentorship, and socio-cultural legitimacy that second-generation entrepreneurs possess.

Through the quantitative analysis of 1,439 survey respondents, with emphasis on 749 first-generation entrepreneurs, this research investigates the intersection of psychological traits, digital competencies, and external support systems. The study addresses a gap in existing literature, which has examined these factors independently but has not developed an integrated framework explaining how they interact to enable entrepreneurial persistence.

Key findings reveal that psychological traits, particularly self-efficacy, grit, and entrepreneurial identity, are the strongest predictors of entrepreneurial satisfaction among first-

generation entrepreneurs. The research documents a significant mentorship gap, with first-generation entrepreneurs 9.7 percentage points less likely to receive mentorship than their non-first-generation counterparts. Digital proficiency reveals a compensatory function, allowing first-generation entrepreneurs to achieve equivalent outcomes by using digital ecosystems to bridge inherited social capital gaps.

The integrated regression model explains 30.5% of variance in entrepreneurial satisfaction. Estimated separately by group, the model explained markedly more variance for first-generation entrepreneurs ($R^2 = 0.39$) than for non-first-generation entrepreneurs ($R^2 = 0.20$). Critically, first-generation status does not directly predict satisfaction when controlling for these factors, indicating that the challenges first-generation entrepreneurs face are structural — rooted in limited access to networks, mentorship, and cultural capital — rather than dispositional.

These findings contribute to entrepreneurship theory through the First-Generation Entrepreneurial Persistence Framework (FGEP Framework) and by extending the Digital Entrepreneurial Ecosystem framework with a psychological layer the original model does not address. Practical implications include recommendations for support programs, educational institutions, policymakers, and industry innovators seeking to help more aspiring entrepreneurs move from intention to action.

CHAPTER 1

INTRODUCTION

Entrepreneurship has long been recognized as a driver of economic growth, innovation, and societal progress. Yet a significant gap persists between entrepreneurial aspiration and entrepreneurial action. Despite unprecedented interest in starting businesses, particularly among younger generations, the majority of those who aspire to entrepreneurship never take the first step.

That gap is especially pronounced among first-generation entrepreneurs, those who start their businesses without any prior family business experience and must figure out the entrepreneurial journey without the inherited networks, knowledge, and socio-cultural legitimacy that second-generation entrepreneurs often take for granted.

This study examines the characteristics that enable first-generation entrepreneurs to move from aspiration to action and persist through the critical early stages of their ventures in the digital age. As a first-generation entrepreneur myself, someone who has lived this journey for over fifteen years, who has started more than twenty companies, and who has experienced both the exhilaration of building businesses to millions in revenue and the desperation of living in my car — I approached this research not merely as an academic exercise but as an opportunity to reveal the path for others who share this calling.

The investigation focuses on the intersection of psychological traits, digital competencies, and external support systems, seeking to understand how these factors interact to drive entrepreneurial persistence. Through analysis of 1,439 entrepreneurs, with particular emphasis on the 749 first-generation entrepreneurs in the sample, this study provides empirically grounded

insights that can inform support programs, educational initiatives, and policy interventions designed to help more aspiring entrepreneurs move from intention to action.

1.1 Statement of the Problem

More people than ever want to start businesses. Schroeder (2020) reports that 54% of Generation Z express intentions to start businesses, while Zapier (2021) found that 61% of Americans have had an idea for starting a business or in other words, have considered starting the entrepreneurial journey. Yet only a small fraction turns these aspirations into actual ventures. Among Americans who reported having a business idea, 92% did not pursue it, citing barriers such as insufficient funding (63%) and a lack of knowledge on how to begin (39%) (Zapier, 2021). This aspiration-action gap is not merely a personal failure. It is a systemic barrier to economic innovation, job creation, and societal progress.

The gap hits first-generation entrepreneurs the hardest. Unlike second-generation entrepreneurs who benefit from what might be called an entrepreneurial playbook passed down through family channels, first-generation entrepreneurs must independently develop the psychological resources, digital competencies, and support structures necessary for venture creation (Chababi, Chreim and Spence, 2017). Karlsson and Williams-Middleton (2015) emphasize that building legitimacy is particularly critical for this population as they face societal biases without inherited trust-based networks.

Current theoretical frameworks do not adequately address the unique intersection of challenges facing first-generation entrepreneurs. The Digital Entrepreneurial Ecosystem model (Sussan and Acs, 2017) provides useful insights into how digital infrastructure enables entrepreneurial activity, yet it treats entrepreneurs as digital citizens without accounting for the

internal barriers faced by those without family business exposure. Existing research has examined psychological traits (Salisu et al., 2020), digital literacy (Patriak, 2023), and mentorship (Xero, 2015) as independent constructs. Yet no interdisciplinary framework exists that explains how these factors interact to enable or constrain the transition from entrepreneurial aspiration to action among first-generation entrepreneurs operating in digitally mediated environments.

This gap in literature has practical consequences. Without understanding the specific mechanisms that drive persistence in this population, support programs, educational initiatives, and policy interventions remain poorly targeted. The problem my investigation addresses is therefore both conceptual and applied: What characteristics enable first-generation entrepreneurs to bridge the aspiration-action gap and persist through the critical early stages of their ventures in the digital age?

1.2 Significance of the Study

The primary theoretical contribution of this study is the development of an interdisciplinary framework, the First-Generation Entrepreneurial Persistence Framework (FGEP Framework) that integrates psychological traits, digital competencies, and support systems into a coherent model of first-generation entrepreneurial persistence. The FGEP Framework conceptualizes persistence as resting on three interconnected pillars mindset, tools, and community. It fills a gap in the literature by explaining how these factors interact to enable or constrain the transition from aspiration to action.

This study also extends the Digital Entrepreneurial Ecosystem framework developed by Sussan and Acs (2017) by adding a psychological layer that accounts for the internal barriers

faced by people who did not grow up in business-oriented families. Sussan and Acs (2017) do an excellent job of explaining infrastructure, policy, marketplaces, and environment, but their model treats entrepreneurs as digital citizens without really accounting for the internal barriers that first-generation entrepreneurs carry into those ecosystems.

1.2.1 Practical Significance

The practical significance lies in the actionable findings this research produces. The identification of specific barriers facing first-generation entrepreneurs, the documentation of the mentorship gap, and the evidence that targeted interventions addressing psychological development and support access can enable first-generation entrepreneurs to achieve outcomes comparable to their more privileged counterparts, all of these have direct implications for practice.

For first-generation entrepreneurs themselves, this dissertation provides guidance on where to focus developmental efforts. For support programs, accelerators, and incubators, the findings inform program design by highlighting the relative importance of psychological skill-building and mentorship access over technical training alone. For educational institutions, the research suggests curriculum changes that prioritize psychological resilience alongside business fundamentals. For policymakers, the data supports resource allocation toward programs that address the specific barriers identified by first-generation entrepreneurs. For industry innovators, the findings point toward opportunities for AI-powered mentorship platforms, community-building tools, and digital literacy resources.

1.2.2 Personal Significance

This research problem is not abstract. It is personal. I am a first-generation entrepreneur. I was born in Los Angeles, California, in 1985 to immigrant parents from Jalisco, Mexico. I am the oldest of five boys. Growing up, by all standards, was difficult, though at the time I never realized it. We grew up with little money, little access to education or programs. I did not know the word entrepreneur through elementary school, middle school, and high school. I was never exposed to entrepreneurship in any form. No one in my family owned a business. No one I spent time with growing up was a business owner. I became the first in my family to attend a four-year university. I became a structural engineer, and then I quit pursuing my calling.

I have been an entrepreneur for over 15 years. I have started more than 20 companies. I have built multiple businesses with millions in revenue. I have served tens of thousands of customers across more than 50 countries. I have also struggled badly: I lived in my car, faced bankruptcy twice, failed more times than I can count. What kept me going was not talent or luck or privilege. It was belief. It was faith. It was a conviction that I was meant to build, meant to create, meant to serve. And it was the slow accumulation of skills, knowledge, confidence, and community that allowed me to persist.

The injustice I am trying to correct is the reality that countless people are starting businesses for the very first time without the tools, skillsets, or knowledge they need to succeed. They did not grow up in entrepreneurial families. They did not have entrepreneurial uncles or aunts. They did not grow up with money. They did not go to business school. They are struggling to get their ideas, products, and services off the ground. I know this because I lived it. This dissertation is the scholarly expression of everything I have experienced, an attempt to give other first-generation entrepreneurs what I did not have when I started: a roadmap, evidence, clarity, and hope.

My conviction is that entrepreneurship is not just about making money or building wealth. Entrepreneurship is a calling. It is responsibility. It is risk. It is service. Entrepreneurs create jobs. They provide value. They serve customers. They gather resources, take risks, innovate, employ others, create economic activity, and move humanity forward. My hope is that the data, the findings, and the insights from this study spark something. Even if it is small. Even if it is just a catalyst. If it helps more entrepreneurs around the world start, persist, and build something meaningful, then this work has done what I hoped it would do.

1.3 Research Questions

1.3.1 Primary Research Question

What characteristics, particularly psychological traits, digital competencies, and external support systems, enable first-generation entrepreneurs to transition from entrepreneurial aspiration to action and persist through the critical early stages of their ventures in the digital age?

1.3.2 Sub-Questions

Sub-Question 1: Psychological Traits and Persistence. How do psychological traits (including resilience, grit, stress management capacity, entrepreneurial identity, passion, and self-efficacy) contribute to entrepreneurial persistence among first-generation entrepreneurs, and which traits show the strongest predictive power?

This question matters because psychological traits emerged in early research as potential differentiators between those who take action and those who remain stuck in aspiration. If we

can identify which specific traits predict persistence, we can design interventions that build those traits intentionally.

Sub-Question 2: Socio-Cultural and Legitimacy Factors. How do socio-cultural influences and legitimacy-building strategies shape entrepreneurial behaviors and enable first-generation entrepreneurs to establish market credibility in the absence of inherited networks?

First-generation entrepreneurs do not inherit the trust-based networks or reputational capital that established business families possess. Understanding how they build credibility from scratch speaks directly to one of the most underexamined barriers this population faces.

Sub-Question 3: Digital Literacy and Ecosystem Engagement. In what ways do digital literacy and engagement with digital entrepreneurial ecosystems (including AI tools, social media platforms, and collaborative technologies) influence entrepreneurial persistence and compensate for traditional resource constraints?

Digital tools have fundamentally changed what is possible for someone starting a business with no connections and limited capital. This question examines whether digital skills function as a direct driver of success or as facilitating infrastructure that supports other factors.

Sub-Question 4: Mentorship and Peer Support. What is the relationship between mentorship access, peer network engagement, and entrepreneurial satisfaction among first-generation entrepreneurs, and do significant disparities exist compared to non-first-generation entrepreneurs?

Growing up, I did not have mentors, at least not direct ones I could talk to or build relationships with. This question examines whether that experience is shared across the first-generation population and whether the gap is measurable.

Sub-Question 5: Integrated Framework. How do psychological traits, digital skills, and external support systems interact to drive entrepreneurial persistence, and what is the relative contribution of each domain to entrepreneurial outcomes?

No single factor operates in isolation. This question seeks to understand the interplay between mindset, tools, and community, the three pillars of the FGEP Framework that this dissertation proposes as the integrated foundation of entrepreneurial persistence.

1.4 Research Objectives

Given the quantitative nature of this study and the limited existing literature on first-generation entrepreneurs, which does not yet support directional predictions research objectives rather than traditional hypotheses guide the investigation, consistent with exploratory quantitative designs in emerging research domains (Creswell and Creswell, 2018). These objectives align with the research questions and provide operational direction for data collection and analysis.

Objective 1: Analyze Psychological Traits and Motivational Drivers. To identify and examine key psychological traits (such as resilience, grit, emotional intelligence, and entrepreneurial passion) alongside intrinsic and extrinsic motivational drivers, including financial independence, flexibility, and self-fulfillment. These traits and drivers are essential for first-generation entrepreneurs to overcome barriers, persist through challenges, and transition from aspiration to action (Newman et al., 2021; Salisu et al., 2020).

Objective 2: Understand Socio-Cultural and Legitimacy-Building Factors. To investigate how familial backgrounds, trust-based networks, and credibility-building strategies

shape entrepreneurial behaviors among first-generation entrepreneurs (Karlsson and Williams-Middleton, 2015; Chababi, Chreim and Spence, 2017).

Objective 3: Evaluate Digital Skills, Literacy, and Entrepreneurial Ecosystems. To assess how digital competencies and ecosystem engagement influence entrepreneurial persistence among first-generation entrepreneurs in the digital age (Patriak, 2023; Sussan and Acs, 2017).

Objective 4: Assess the Role of Mentorship, Digital Ecosystems, and Community. To evaluate the impact of mentorship programs, peer networks, and collaborative digital ecosystems on sustaining first-generation entrepreneurs (Xero, 2015; Colovic and Schruoffenegger, 2021).

Objective 5: Develop an Interdisciplinary Framework. To develop an interdisciplinary framework (the FGEP Framework) that evaluates the interaction between psychological traits, digital skills, and external support systems in driving entrepreneurial persistence among first-generation entrepreneurs.

1.5 Limitations, Delimitations, and Assumptions

1.5.1 Limitations

This study acknowledges several limitations that may affect the interpretation and generalizability of findings.

Sample and Generalizability Limitations. The majority of respondents (73.6%) were U.S.-based, which means there is a large global population not captured in this data. The U.S.-centric nature of the sample shapes the conclusions. While the internal entrepreneurial experience has many universal elements — fear, doubt, confidence, aspiration, and dreams are

part of human nature regardless of country or culture — external environments vary significantly across national and cultural contexts.

Sampling Method Limitations. The survey was promoted through Meta platforms targeting people interested in entrepreneurship and business, which created an inherent filter. People who did not identify with the ad copy or visuals, people who are not active on those platforms, or people who do not click on ads were never exposed to the survey. The sample was not random but a targeted group with some level of interest in business or entrepreneurship, which may over-represent digitally engaged, entrepreneurially inclined individuals.

Self-Report and Measurement Limitations. All data were collected through self-report measures, introducing potential social desirability bias and common method variance. Respondents may have overestimated their psychological traits, digital capabilities, or entrepreneurial satisfaction. While the use of validated scales provides some protection against these biases, objective measures of entrepreneurial outcomes (such as revenue, employee counts, or venture survival) would strengthen future research.

Cross-Sectional Design Limitations. This study employed a cross-sectional design, capturing a snapshot of entrepreneurial experience at a single point in time. Traits like self-efficacy and grit are not static; they develop over time through experience. The cross-sectional design cannot establish causal relationships. While the regression analyses confirm that psychological traits predict entrepreneurial satisfaction, the study cannot determine whether psychological traits cause satisfaction or whether successful entrepreneurial experiences build psychological resilience.

1.5.2 Delimitations

The boundaries placed on the findings reported here include the following:

Population Focus. This dissertation focuses particularly on first-generation entrepreneurs, defined as those who started their businesses without any prior family business experience. While comparisons are made with non-first-generation entrepreneurs, the primary analytical focus remains on the first-generation population.

Stage Focus. The study concentrates on the early stages of entrepreneurship, from aspiration through initial venture creation and early persistence. Later-stage challenges (such as scaling, exit strategies, or mature business management) fall outside the scope of this investigation.

Geographic Focus. While respondents from multiple countries participated, Meta advertising campaigns were concentrated in the United States, with additional campaigns in Canada, the United Kingdom, and Australia. The resulting sample is predominantly U.S.-based (73.6%), and findings should be interpreted with this geographic concentration in mind.

Methodological Focus. The research employs a quantitative, cross-sectional survey design. Qualitative dimensions of the entrepreneurial experience such as narrative accounts, emotional journeys, or context-specific challenges are not captured in this methodology.

1.5.3 Assumptions

This dissertation proceeds under several assumptions:

Honest Response Assumption. The study assumes that survey respondents provided honest and accurate responses to the questions posed. While self-report bias is acknowledged as

a limitation, the analysis proceeds on the assumption that respondents engaged genuinely with the survey instrument.

Construct Validity Assumption. The study assumes that the validated scales employed, including adaptations of the Grit Scale and measures of entrepreneurial passion, adequately capture the psychological and behavioral constructs they are designed to measure.

Sample Representativeness Assumption. While acknowledging sampling limitations, the study assumes that the achieved sample provides meaningful representation of the broader population of early-stage first-generation entrepreneurs engaged with digital entrepreneurial ecosystems.

Temporal Stability Assumption. The study assumes that the relationships observed in the data reflect relatively stable patterns rather than transient associations unique to the data collection period.

1.6 Definition of Terms

Aspiration-Action Gap. The discrepancy between the percentage of individuals who express entrepreneurial intentions or consider starting a business and the percentage who actually take concrete steps to pursue venture creation. This gap represents the distance between entrepreneurial aspiration and entrepreneurial action.

Digital Entrepreneurial Ecosystem. An interconnected system of digital infrastructure, platforms, tools, and communities that enables entrepreneurial activity. As conceptualized by Sussan and Acs (2017), digital entrepreneurial ecosystems create global access points for

resources, mentorship, and market opportunities that are particularly valuable for entrepreneurs without established networks.

Digital Skills. The competencies required to effectively use digital tools, platforms, and technologies for business purposes. In this study, digital skills encompass digital tool proficiency, perceived importance of digital tools for business success, and effectiveness in using social media for business growth.

Entrepreneurial Identity. The degree to which an individual incorporates being an entrepreneur into their self-concept and sense of who they are. Entrepreneurial identity influences how individuals approach challenges, make decisions, and persist through difficulties.

Entrepreneurial Passion. The intense positive feelings and intrinsic motivation associated with entrepreneurial activities. Entrepreneurial passion encompasses cognitive, emotional, and behavioral dimensions that drive sustained engagement with venture creation.

Entrepreneurial Persistence. The capacity to continue pursuing entrepreneurial goals despite obstacles, setbacks, and challenges. Persistence involves sustained effort over time and the ability to maintain motivation and engagement when facing difficulties.

Entrepreneurial Satisfaction. The degree to which entrepreneurs report positive feelings about their overall entrepreneurial experience, including satisfaction with their journey, outcomes, and progress toward goals. This study uses entrepreneurial satisfaction as the primary outcome variable.

First-Generation Entrepreneur. An entrepreneur who starts their business without any prior family business experience (Kazmi, 1999). First-generation entrepreneurs lack inherited

business networks, familial mentorship, and the socio-cultural legitimacy that second-generation entrepreneurs possess through generational accumulation of reputational capital.

Grit. Perseverance and passion for long-term goals, characterized by the tendency to finish whatever one begins and to maintain effort and interest over time despite failure, adversity, and plateaus in progress. In entrepreneurial contexts, grit enables sustained pursuit of venture goals through inevitable challenges.

Grit Subsidy. A concept developed in this study referring to the phenomenon whereby digital proficiency allows first-generation entrepreneurs to achieve equivalent success with lower traditional grit scores by using digital ecosystems to bridge inherited social capital gaps.

Legitimacy-Building Strategies. Deliberate approaches employed by entrepreneurs to establish stakeholder trust and market credibility. For first-generation entrepreneurs without inherited reputational capital, legitimacy-building strategies include using social capital, obtaining certifications, showcasing transparency, and participating in professional networks (Karlsson and Williams-Middleton, 2015).

Mentorship Gap. The documented disparity in mentorship access between first-generation and non-first-generation entrepreneurs. This research identified a 9.7 percentage point gap, with first-generation entrepreneurs significantly less likely to receive mentorship (74.4%) compared to their non-first-generation counterparts (84.0%).

Psychological Traits. Internal characteristics and dispositions that influence how individuals think, feel, and behave in entrepreneurial contexts. Key psychological traits examined in this study include resilience, grit, stress management capacity, entrepreneurial identity, passion, and self-efficacy.

Resilience. The capacity to recover quickly from difficulties and setbacks, maintaining psychological well-being and functional effectiveness despite encountering adversity. In entrepreneurial contexts, resilience enables entrepreneurs to bounce back from failures and continue pursuing their goals.

Self-Efficacy. As defined by Bandura (1986), self-efficacy refers to people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Entrepreneurial self-efficacy especially refers to confidence in one's ability to succeed as an entrepreneur.

Stress Management. The capacity to effectively cope with and regulate responses to stressful situations. In this study, stress management is one of six psychological traits examined as contributors to entrepreneurial persistence.

Support Systems. External resources and relationships that provide assistance, guidance, and encouragement to entrepreneurs. Support systems include formal mentorship, peer networks, entrepreneurial communities, and collaborative relationships that facilitate knowledge transfer and resource access.

1.7 Background

1.7.1 The Context of First-Generation Entrepreneurship

First-generation entrepreneurs face a set of challenges that compound the already-difficult work of venture creation. Chababi, Chreim and Spence (2017) draw parallels between first-generation and immigrant entrepreneurs, noting that both groups operate in environments where they lack the socio-cultural legitimacy that established business families possess through

generational accumulation of reputational capital. This legitimacy deficit creates barriers to stakeholder trust, resource access, and market credibility.

The distance between aspiration and action is substantial. 61% of Americans report having entrepreneurial ideas, yet 92% of them never pursued it (Zapier, 2021). That is shocking. It points to a gap that matters. People with ideas, dreams, and aspirations to create products or services that could be life-changing, that could improve communities, create jobs, and move things forward, for some reason, they never start.

Why do so many people never start? That question matters to society. First-generation entrepreneurs face invisible barriers that others do not see. They did not have the advantage of growing up in a business environment, an entrepreneurial family, having mentors, or access to inherited social capital. The gaps are things that might get discussed naturally at family gatherings or over dinner when someone grows up in an entrepreneurial household. First-generation entrepreneurs did not grow up with that, so those missing pieces slow down action.

1.7.2 The Digital Transformation of Entrepreneurship

The emergence of digital entrepreneurial ecosystems has fundamentally changed how ventures are created and scaled. Sussan and Acs (2017) emphasize that digital ecosystems create global access points for resources and mentorship critical for overcoming the inherent disadvantages faced by first-generation entrepreneurs. Patriak (2023) emphasizes the role of digital literacy in adapting to disruptive environments, while noting that digital skill gaps can limit entrepreneurs' ability to fully use available resources.

The digital age offers both opportunities and challenges for first-generation entrepreneurs. On one hand, digital tools and platforms provide unprecedented access to

information, networks, and resources that were previously available only to those with established connections. On the other hand, the rapid pace of technological change requires continuous adaptation and learning. With 71% of entrepreneurs using social media as a primary growth strategy (The Hustle, 2024), the ability to adapt to digital marketing and resource management tools is increasingly essential.

1.7.3 The Role of Psychological Factors

Bandura's Social Cognitive Theory provides the theoretical foundation for understanding how first-generation entrepreneurs develop self-efficacy through observational learning, personal mastery experiences, and social persuasion (Bandura, 1986). The theory posits that human behavior is shaped by the reciprocal interaction of personal factors, behavioral patterns, and environmental influences a framework directly applicable to understanding how entrepreneurs without family business exposure develop entrepreneurial capabilities.

The concept of self-efficacy, defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives (Bandura, 1986, p. 391) is particularly relevant to understanding why some aspiring entrepreneurs take action while others remain in the aspiration phase. If I do not believe I am capable, if I do not believe I deserve it or can accomplish it, there is a high likelihood I will not follow through. For first-generation entrepreneurs who lack family role models, alternative sources of observational learning (mentors, peer networks, digital communities) become critical substitutes for the learning opportunities naturally available to those with entrepreneurial family backgrounds.

Grit and resilience are critical traits that enable entrepreneurs to overcome challenges, especially for those working through first-time ventures without the safety nets of inherited business knowledge (Salisu et al., 2020). The psychological dimension of entrepreneurship, long understudied relative to financial and strategic dimensions, may hold the key to understanding what differentiates successful first-generation entrepreneurs from those who remain trapped in the aspiration phase.

1.7.4 The Mentorship and Support Dimension

Research consistently establishes the importance of mentorship and peer support for entrepreneurial success (Xero, 2015). However, first-generation entrepreneurs often lack access to these critical resources. Growing up, I did not have mentors, at least not direct ones I could talk to or build relationships with. When I started my entrepreneurial journey in my early 20s, my mentors were books, YouTube videos, conferences, and speakers I listened to from a distance people I never got to talk to or learn from personally. There was no successful entrepreneur or business owner who took me under their wing and showed me the ropes.

This mentorship deficit has both practical and psychological consequences. Practically, first-generation entrepreneurs must learn through trial and error what others learn through guided instruction. Psychologically, the absence of mentors reinforces isolation and self-doubt. The challenge is not just accessing information; it is building the relationships and communities that sustain entrepreneurs through the inevitable difficulties of venture creation.

1.7.5 Personal Background and Research Motivation

As described in Section 1.2.2, this study is grounded in my own experience as a first-generation entrepreneur who has navigated the aspiration-to-action transition without inherited business knowledge, family networks, or exposure to entrepreneurship. That lived experience informs every aspect of this study, from the research questions I chose to investigate, to the quantitative approach I selected to minimize the influence of personal bias, to the practical recommendations I offer in Chapter 5. I acknowledge my positionality as both researcher and subject of the phenomenon under study throughout this dissertation, and I discuss the methodological safeguards addressing potential bias in Chapter 3.

1.7.6 Chapter Summary

This chapter has introduced the research problem, established the significance of the study, articulated the research questions and objectives, acknowledged limitations and delimitations, defined key terms, and provided background context for understanding first-generation entrepreneurship in the digital age. Chapter 2 presents a review of the literature that informs this investigation, examining existing research on psychological traits, digital competencies, socio-cultural factors, and support systems as they relate to entrepreneurial persistence, the domains that converge in the FGEP Framework developed in Chapter 5.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

First-generation entrepreneurs are those who start their businesses without any prior family business experience (Kazmi, 1999). An entrepreneur has a vision, sees an opportunity, and acts on it to start a new business venture (Lewin, 2015). It is the discovery, co-creation, evaluation, and exploitation of opportunities to produce goods and services (Shane, 2012). First-generation entrepreneurs face unique challenges and opportunities, which makes their accomplishments, or lack thereof, particularly interesting. For these entrepreneurs, success may not only be financial but more in line with personal satisfaction, positively impacting others, and ultimately fulfilling their personal dreams.

What characteristics are necessary for first-generation entrepreneurs to succeed in this digital age? That question drives my investigation. My study aims to bridge the knowledge gap regarding first-generation entrepreneurs, a topic with limited existing literature. The research is designed to reveal the specific characteristics that enable this group to move from aspiration to action and persist through the critical early stages of their ventures.

Understanding the success of first-generation entrepreneurs requires a strong theoretical foundation. The literature reviewed in this chapter establishes that foundation by examining scholarship across five interconnected domains that align with the research objectives: psychological traits and motivational drivers, socio-cultural influences and legitimacy-building strategies, digital skills and entrepreneurial ecosystems, mentorship and support systems, and the integration of these factors into a coherent framework. Each domain contributes essential

insights into understanding what enables first-generation entrepreneurs to succeed in a digitally-mediated business environment.

The success of first-generation entrepreneurs is essential not only for them but also for their families and communities. It inspires and empowers others to pursue their entrepreneurial dreams, leading to economic growth and job creation. Their success also helps to break down barriers and create opportunities for the marginalized groups they may come from. Understanding what factors contribute to the success of first-generation entrepreneurs is important because it can lead to more inclusive economic growth and an equitable society. When first-generation entrepreneurs succeed, they create a path. They show others from similar backgrounds that it is possible. That matters, not just economically, but culturally.

This chapter is organized into eight sections. Following this introduction, Section 2.2 presents the inclusion criteria that guided the literature selection process. Section 2.3 establishes the theoretical foundations of the study, grounded primarily in Bandura's Social Cognitive Theory. Sections 2.4 through 2.8 examine the literature organized around the five research objectives: psychological traits and motivational drivers, socio-cultural influences and legitimacy-building, digital skills and entrepreneurial ecosystems, mentorship and support systems, and the integration of these factors toward an interdisciplinary framework. Section 2.9 provides a summary of the literature and identifies the gaps this research addresses.

2.2 Inclusion Criteria

The literature selection process for this review followed a systematic approach designed to capture the most relevant and rigorous scholarship on first-generation entrepreneurship,

psychological traits, digital competencies, and support systems. Several criteria guided the selection of sources.

2.2.1 Recency of Research

Priority was given to recent research, with particular emphasis on publications from 2015 to the present. This timeframe was selected to capture the rapid evolution of digital entrepreneurship and the emergence of new theoretical frameworks addressing the intersection of technology and venture creation. That said, earlier works that established key theoretical constructs, such as Bandura's (1986, 1997) seminal contributions to Social Cognitive Theory and self-efficacy, were included regardless of publication date given their enduring relevance to understanding entrepreneurial behavior.

2.2.2 Source Quality and Type

Peer-reviewed academic research was prioritized as the primary source of evidence. This included empirical studies published in established entrepreneurship journals, psychology journals, and management journals. However, recognizing that entrepreneurship research intersects with rapidly evolving practice, reputable non-peer-reviewed sources were also included when they provided relevant data or insights not available in academic literature. These sources included industry reports from organizations such as Zapier, Xero, ZenBusiness, The Hustle, the Interactive Advertising Bureau, and Deloitte, which provide contemporary data on entrepreneurial trends and challenges that academic research has not yet fully addressed.

2.2.3 Search Strategy

The literature search began with the EBSCO Research Database, utilizing search terms including first-generation entrepreneurs, entrepreneurial persistence, digital entrepreneurship,

entrepreneurial self-efficacy, grit and entrepreneurship, mentorship and entrepreneurship, and legitimacy-building strategies. As the search progressed, Google Scholar was employed to identify additional relevant sources and to follow citation trails from key articles. Given the limited existing research specifically addressing first-generation entrepreneurs, a broader search strategy was subsequently adopted to capture relevant scholarship from adjacent fields including immigrant entrepreneurship, nascent entrepreneurship, and entrepreneurship education.

2.2.4 Relevance to Research Objectives

Sources were ultimately selected based on their relevance to the five research objectives guiding this study. Literature was included if it addressed psychological traits relevant to entrepreneurial persistence, socio-cultural factors affecting entrepreneurs without established business backgrounds, digital skills and ecosystem engagement in entrepreneurial contexts, mentorship and support system effectiveness, or the integration of multiple factors in explaining entrepreneurial outcomes. Sources that addressed these topics primarily in relation to first-generation, nascent, or early-stage entrepreneurs were given priority.

2.3 Theoretical Foundations

Understanding the success of first-generation entrepreneurs requires a strong theoretical foundation. Bandura's Social Cognitive Theory provides the primary theoretical basis for the present analysis, offering a framework for understanding how first-generation entrepreneurs develop the capabilities necessary for venture creation and persistence in the absence of family business exposure.

2.3.1 Social Cognitive Theory and Entrepreneurial Development

Bandura's Social Cognitive Theory posits that human behavior is shaped by the reciprocal interaction of personal factors, behavioral patterns, and environmental influences (Bandura, 1986). This framework is directly applicable to understanding how entrepreneurs without family business exposure develop entrepreneurial capabilities. According to Bandura (1986), individuals learn not only through direct experience but through the observation of others' behaviors and outcomes. For first-generation entrepreneurs who lack family role models, this means that alternative sources of vicarious learning such as mentors, peer networks, and digital communities become critical substitutes for the observational learning opportunities naturally available to those with entrepreneurial family backgrounds.

Self-efficacy people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives (Bandura, 1986, p. 391) is central to understanding why some aspiring entrepreneurs take action while others remain in the aspiration phase. Bandura (1997) extended his earlier work to articulate four primary sources of self-efficacy: mastery experiences (performing tasks successfully), vicarious experiences (observing others succeed), social persuasion (encouragement from others), and physiological states (emotional arousal). For first-generation entrepreneurs, the absence of family business exposure limits access to vicarious experiences, potentially constraining the development of entrepreneurial self-efficacy.

Research shows that self-efficacy beliefs determine how people feel, think, motivate themselves, and behave (Bandura, 1997). Entrepreneurs with high self-efficacy are more likely to set challenging goals, persist through obstacles, and recover quickly from setbacks traits essential for working through the uncertainties of venture creation. Bandura (1997) emphasizes that self-efficacy is domain-specific rather than a global trait, meaning that entrepreneurial self-

efficacy must be developed through entrepreneurship-specific experiences and learning opportunities. This has direct implications for first-generation entrepreneurs who must deliberately seek out such experiences rather than absorbing them through family exposure.

The intergenerational dimension of entrepreneurial development is highlighted by Barnir and McLaughlin (2011), who found that parental self-employment significantly influences offspring's start-up activities and access to funding. Their research reveals that children of self-employed parents benefit from observational learning, informal mentorship, and access to entrepreneurial networks that first-generation entrepreneurs must build independently. This evidence reinforces the centrality of Bandura's vicarious learning construct: when parental role models are absent, the entire developmental pathway to entrepreneurial self-efficacy is disrupted, requiring alternative mechanisms that this dissertation seeks to identify.

2.3.2 The Digital Entrepreneurial Ecosystem Framework

The Digital Entrepreneurial Ecosystem model developed by Sussan and Acs (2017) provides a complementary theoretical framework for understanding first-generation entrepreneurship in the digital age. This framework merges the concepts of digital and entrepreneurial ecosystems to better understand how agents and users interact in the modern era. It provides valuable insights into digital infrastructure by examining the dynamics of digital infrastructure governance, digital user citizenship, digital entrepreneurship, and digital marketplaces (Sussan and Acs, 2017).

Sussan and Acs (2017) emphasize that digital ecosystems create global access points for resources and mentorship critical for overcoming inherent disadvantages faced by first-generation entrepreneurs. While traditional ecosystems focus on localized networks, digital

ecosystems move beyond geographic boundaries, potentially opening up access to entrepreneurial resources. That distinction matters for this research. Yet, as I argue throughout this dissertation, the Digital Entrepreneurial Ecosystem framework treats entrepreneurs as digital citizens without fully accounting for the internal psychological barriers faced by those without family business exposure. My research extends this framework by adding a psychological layer that addresses these internal barriers. The framework describes exactly the kind of infrastructure that did not exist when I launched my first venture in 2011 with no inherited business knowledge. It provides a lens for understanding how digital tools can lower the barriers that first-generation entrepreneurs face, but it does not address the mindset dimension that my research adds.

2.3.3 Legitimacy Theory and First-Generation Entrepreneurs

Legitimacy theory provides essential insights into the challenges first-generation entrepreneurs face in establishing market credibility. Fisher, Kotha and Lahiri (2016) present an integrated framework explaining how entrepreneurial ventures manage their identities and legitimacy over different life cycle stages. Their model shows that legitimacy-building is particularly challenging during early venture stages when entrepreneurs lack track records. New ventures must work through a fundamental tension between projecting a coherent identity and adapting to stakeholder expectations, with first-time entrepreneurs facing greater challenges in this process due to limited experience with identity management (Fisher, Kotha and Lahiri, 2016, p. 390).

Karlsson and Williams-Middleton (2015) extend legitimacy theory specifically to entrepreneurs with limited networks, identifying practical strategies for establishing stakeholder trust. Their research identifies specific approaches through which entrepreneurs with limited

networks establish that trust, including using social capital, obtaining certifications, and showcasing transparency in business operations. These strategies require deliberate effort and learned competencies that family business incumbents often acquire without thinking about it. This theoretical perspective directly informs the second research objective, which examines socio-cultural influences and legitimacy-building strategies among first-generation entrepreneurs.

2.4 Psychological Traits and Motivational Drivers

The first research objective of this study is to identify and examine key psychological traits, such as resilience, grit, emotional intelligence, and entrepreneurial passion, alongside motivational drivers essential for first-generation entrepreneurs to overcome barriers, persist through challenges, and transition from aspiration to action. This section reviews the literature on psychological factors that enable entrepreneurial persistence.

I want to be direct about why this section matters to me personally. When I started my first business in 2011, I did not have a framework for understanding what was happening inside my own head. I did not know the academic language for self-efficacy or grit or resilience. I just knew that something kept me going when the money ran out, when I could not sell, when months went by without revenue. The literature reviewed here puts names and empirical evidence behind what I experienced but could not articulate at the time. That is not just academically interesting. It is personally clarifying.

2.4.1 Grit and Perseverance in Entrepreneurship

Grit, defined as perseverance and passion for long-term goals, has emerged as a critical psychological trait for entrepreneurial success. Salisu et al. (2020) established that perseverance

of effort and consistency of interest, the two dimensions of grit, are critical determinants of entrepreneurial career success. Their research showed that resilience functions as a moderating variable enabling entrepreneurs to maintain focus despite significant challenges. Entrepreneurs seem to have a greater inclination to experience risk than non-entrepreneurs (Kerr, Kerr and Dalton, 2019), and grit serves as a constant source of energy and action in the demanding entrepreneurial road to success.

Aryoko et al. (2024) provide empirical evidence that grit significantly predicts entrepreneurial intention among Generation Z individuals. Their study found that both perseverance of effort and consistency of interest positively influenced Gen Z's intentions to pursue entrepreneurship. Generation Z individuals with higher levels of grit show greater entrepreneurial intention, with work values serving as a mediating mechanism through which grit influences the decision to pursue venture creation (Aryoko et al., 2024, p. 8). What stands out here is that Gen Z entrepreneurs who scored high on grit were more likely to translate their entrepreneurial aspirations into concrete action, directly addressing the aspiration-to-action gap central to this research.

2.4.2 Resilience as a Developable Competency

Martínez-González et al. (2022) found that entrepreneurial resilience is not a fixed trait but can be developed through targeted educational interventions. Their study of university students revealed that resilience training significantly enhanced students' capacity to cope with entrepreneurial challenges and maintain motivation during setbacks. Resilience acts as a protective factor that enables nascent entrepreneurs to persist in the face of adversity and transform obstacles into opportunities for growth (Martínez-González et al., 2022, p. 5). The data

supports the development of resilience-focused components in entrepreneurship education programs.

Here is what makes this finding significant for my research: Martínez-González et al. (2022) found that students from non-entrepreneurial family backgrounds showed the greatest improvement in resilience scores following intervention. That means resilience can compensate for the absence of inherited entrepreneurial knowledge. The implication is not that first-generation entrepreneurs are psychologically deficient. It is that the psychological resources required for entrepreneurial persistence can be deliberately built through the right interventions, even when they are not naturally acquired through family exposure.

2.4.3 Entrepreneurial Passion and Persistence

Newman et al. (2021) conducted a thorough review of empirical work on entrepreneurial passion, documenting the growth of research on entrepreneurial passion and its intersection with work passion across various sub-fields of entrepreneurship research. The study provided a detailed look at the approaches, concepts, theories, metrics, themes, and subjects explored in current research on entrepreneurial passion. The authors pointed out areas where previous studies were inconsistent or fell short, especially in how they used theories, drew causal connections, and defined and measured entrepreneurial passion.

Cardon and Kirk (2015) took this further, demonstrating that entrepreneurial passion mediates the relationship between self-efficacy and persistence providing key evidence for understanding how psychological traits interact to produce entrepreneurial outcomes. Their findings show that self-efficacy influences persistence primarily through its effect on passion. Entrepreneurs who believe in their capabilities are more likely to develop intense positive

feelings about their ventures, which in turn drives their persistence in the face of challenges (Cardon and Kirk, 2015, p. 1035). Cardon and Kirk (2015) propose a sequential model where self-efficacy leads to passion which then leads to persistence, suggesting that interventions targeting self-efficacy development may have downstream effects on both passion and persistence outcomes.

2.4.4 Self-Efficacy as the Central Construct

Newman et al. (2019) provide a systematic review of entrepreneurial self-efficacy research, establishing its theoretical foundations, measurement approaches, antecedents, and outcomes. The review validates self-efficacy as a central construct in entrepreneurship research. Entrepreneurial self-efficacy is domain-specific, with individuals demonstrating varying levels of confidence across different entrepreneurial tasks such as opportunity recognition, resource marshalling, and venture management (Newman et al., 2019, p. 410). Newman et al. (2019) identify mentorship and entrepreneurial education as key antecedents of entrepreneurial self-efficacy, providing theoretical support for the relationship between support systems and psychological traits in understanding first-generation entrepreneurial success.

The centrality of self-efficacy matches my own experience as a first-generation entrepreneur. What kept me going through years of struggle was not talent or luck or privilege. It was belief. It was a conviction that I was meant to build, meant to create, meant to serve. And it was the slow accumulation of skills, knowledge, confidence, and community that allowed me to persist. The literature confirms that this experience this building of confidence through accumulated experience follows a predictable pattern that can be understood and potentially accelerated through targeted interventions.

2.4.5 Personality Traits and Entrepreneurial Profiles

Kerr, Kerr and Dalton (2019) found that entrepreneurs exhibit distinct personality profiles characterized by higher openness to experience, greater tolerance for risk, and elevated levels of conscientiousness compared to non-entrepreneurs. Their analysis of large-scale datasets revealed that these traits are present even before individuals become entrepreneurs. Entrepreneurs and their venture team members share characteristic personality traits that distinguish them from the general population, suggesting that entrepreneurship attracts individuals with particular psychological profiles (Kerr, Kerr and Dalton, 2019, p. 17714). While certain traits may predispose individuals to entrepreneurship, the development of entrepreneurial capabilities also shapes personality over time, pointing to a bidirectional relationship between traits and entrepreneurial experience.

Henley (2016) examines how contextual variables, including economic conditions and labor market dynamics, influence the decision to pursue self-employment. His research distinguishes between necessity entrepreneurs driven by lack of alternatives and opportunity entrepreneurs motivated by market identification. Contextual factors significantly moderate the relationship between individual characteristics and entrepreneurial behavior, with economic uncertainty increasing the importance of psychological traits such as resilience and adaptability (Henley, 2016, p. 12). Henley (2016) emphasizes that first-generation entrepreneurs may face different contextual pressures than those with family business backgrounds, as they lack the safety net of returning to a family enterprise if their ventures fail.

This distinction matters. If you come from a family with business experience, failure carries a different weight. You can go back. You have a floor beneath you. If you are a first-generation entrepreneur, there is no floor. Either you figure it out, or you go back to a traditional

job and the entrepreneurial dream stays a dream. That is the branching path the literature describes: two very different risk environments producing two very different decision calculi, even when the psychological profiles look similar on paper.

First-generation entrepreneurs in highly competitive and rapidly evolving digital markets face additional demands on their psychological resources. Oyeyemi et al. (2024) conducted a thorough review of start-up success factors and technological impact, finding that agility, adaptability, and continuous innovation are essential for entrepreneurial success in the digital age. First-generation entrepreneurs in digital markets must develop distinctive capabilities including rapid learning, strategic flexibility, and technology adoption agility to compete effectively (Oyeyemi et al., 2024, p. 6). Oyeyemi et al. (2024) emphasize that technological competence alone is not enough. Successful digital entrepreneurs must combine technical skills with strategic thinking, customer understanding, and adaptive management capabilities. This reinforces the argument that psychological traits serve as the foundation upon which all other competencies are built.

2.4.6 Emotional Skills and Entrepreneurial Success

Aly, Audretsch and Grimm (2021) argue that emotional skills including resilience and adaptability can be cultivated through targeted educational initiatives. Their research on translational research addresses the emotional challenges entrepreneurs face during their entrepreneurial journey. Despite efforts by entrepreneurship education and policy to equip entrepreneurs with the necessary skills and resources, existing literature stresses the significant emotional obstacles that entrepreneurs encounter. The paper fills this gap by translating insights from entrepreneurship research into practical tools, methods, and strategies to improve entrepreneurs' emotional resilience.

What this body of literature makes clear is that psychological traits, particularly self-efficacy, grit, resilience, and entrepreneurial passion, serve as the primary determinants of entrepreneurial persistence. For first-generation entrepreneurs who cannot rely on inherited business knowledge or familial safety nets, these psychological resources become even more critical. The research also shows that these traits are not fixed but developable, creating opportunities for targeted interventions that can help these founders build the psychological foundation necessary for venture success.

2.5 Socio-Cultural Influences and Legitimacy-Building

The second research objective of this study is to investigate how familial backgrounds, trust-based networks, and credibility-building strategies shape entrepreneurial behaviors among first-generation entrepreneurs. This section examines the literature on the socio-cultural challenges facing first-generation entrepreneurs and the strategies they employ to establish legitimacy in the absence of inherited networks.

2.5.1 The Legitimacy Deficit of First-Generation Entrepreneurs

Chababi, Chreim and Spence (2017) draw parallels between first-generation and immigrant entrepreneurs, noting that both groups work through environments where they lack the socio-cultural legitimacy that established business families possess through generational accumulation of reputational capital. This legitimacy deficit creates barriers to stakeholder trust, resource access, and market credibility. Similar to immigrant entrepreneurs, first-generation entrepreneurs often face cultural biases and a lack of trust-based networks, requiring innovative legitimacy-building strategies.

Beckers and Blumberg (2013) provide complementary evidence through their longitudinal analysis of first- and second-generation immigrant entrepreneurship in the Netherlands. Their research demonstrates that immigrant entrepreneurs across generations face distinct challenges in establishing business credibility, with first-generation immigrants experiencing significantly greater barriers to network access and institutional legitimacy than their second-generation counterparts. The parallel to first-generation entrepreneurs without family business backgrounds is direct: the absence of inherited social capital and business knowledge creates a compounding disadvantage that requires deliberate, strategic remediation. Beckers and Blumberg (2013) found that over time, entrepreneurial participation increases across generations as social capital accumulates. What this tells us is clear: what first-generation entrepreneurs lack is not ability but access.

First-generation entrepreneurs face invisible barriers that others do not see. They lacked business exposure, an entrepreneurial family, mentors, or inherited social capital. These are things that might get discussed naturally at family gatherings or over dinner in an entrepreneurial household. First-generation entrepreneurs did not grow up with that, so those missing pieces slow down action. I know this because I lived it. When I grew up, I did not know the word entrepreneur. I had no exposure to business ownership, no family member to call when I needed advice, no dinner-table conversations about margins or customers or partnerships. The literature confirms that this absence of inherited legitimacy creates real barriers that must be addressed through deliberate strategy rather than organic accumulation.

2.5.2 Legitimacy-Building Strategies

Karlsson and Williams-Middleton (2015) found that building legitimacy is one of the steepest challenges for this population, who face societal biases without inherited trust-based

networks. Their research identifies specific strategies through which entrepreneurs with limited networks establish stakeholder trust, including using social capital, obtaining certifications, and showcasing transparency in business operations. However, these strategies require deliberate effort and learned competencies that family business incumbents often acquire without realizing it.

I know what it takes to build credibility from nothing. When I started my first business, I did not have a family name that opened doors, no existing client base I could inherit, no reputation I could borrow. Every ounce of trust I earned came from delivering results one customer at a time, one project at a time. The strategies Karlsson and Williams-Middleton describe certifications, transparency, demonstrable competence are not theoretical for me. They are the exact playbook I followed, and the literature confirms that this approach is shared across the first-generation population.

Williams Middleton (2013) emphasizes the significant role of social interaction in building legitimacy, with entrepreneurs utilizing conforming, selecting, and manipulating strategies. Nascent entrepreneurs engage in continuous legitimacy work, adapting their strategies based on stakeholder responses and environmental feedback (Williams Middleton, 2013, p. 415). Williams Middleton (2013) found that entrepreneurs from non-business backgrounds often adopt legitimacy strategies that emphasize personal authenticity and passion, compensating for lack of formal business credentials or family business reputation.

Zamantılı Nayır and Shinnar (2020) provide insights into how founders establish legitimacy through strategic storytelling and narrative construction. Their study of social entrepreneurs in developing countries revealed that rhetoric and narrative framing are essential tools for building stakeholder trust. Entrepreneurs who lack formal credentials or established

networks compensate by constructing compelling narratives that emphasize their passion, commitment, and unique value proposition (Zamantılı Nayır and Shinnar, 2020, p. 230). They identify three legitimacy-building mechanisms: conforming to stakeholder expectations, selecting favorable environments, and shaping perceptions through strategic communication strategies particularly relevant for first-generation entrepreneurs establishing initial credibility.

2.5.3 The First Sale as Legitimacy Milestone

Rehme and Svensson (2011) emphasize the role of external stakeholders in influencing the first sale of technology-based start-ups, with credibility being a key factor in this process. The first sale represents a critical legitimacy milestone for new ventures, with credibility established through this achievement creating positive feedback loops that make subsequent customer acquisition easier (Rehme and Svensson, 2011, p. 10). Entrepreneurs lacking network-based referrals must invest more heavily in credibility-signaling activities such as certifications, third-party endorsements, and demonstration of technical competence. Anyone who has tried to make that first sale without a warm introduction or a recognizable name behind them understands how much harder it is when nobody has heard of you.

2.5.4 Generational and Demographic Factors

The research on demographic characteristics that distinguish first-generation entrepreneurs in the digital age provides varied insights. Zhang and Acs (2018) analyzed the connection between age and entrepreneurship among various entrepreneurs and generational impacts in the United States. Entrepreneurial inclination generally increases with age until about 80, but the preference for certain types of entrepreneurship, such as novice versus non-novice

and incorporated versus unincorporated, may differ with age. These varied age trends suggest that age plays a complex role in entrepreneurship.

Azwardi, Andaiyani and Igamo (2023) extend the demographic analysis to the digital entrepreneurship context, finding that socio-demographic characteristics shape both the supply and demand sides of digital entrepreneurship. Their study conducted in Indonesia reveals that younger, more educated individuals demonstrate greater propensity to both create and consume digital ventures (Azwardi, Andaiyani and Igamo, 2023, p. 438). This result is particularly relevant for understanding first-generation entrepreneurs in the digital age, as it suggests that demographic factors interact with digital competencies to influence entrepreneurial outcomes in ways that traditional entrepreneurship models may not fully capture.

Boutaky, El Ouadoudi and Mabrouki (2023) emphasize that understanding the relationship between digital entrepreneurship and generational characteristics is essential for predicting entrepreneurial outcomes in the current technological environment. Their research positions Gen Z as uniquely suited for digital-first venture creation. Generation Z entrepreneurs prove distinctive digital-native characteristics that influence their approach to venture creation, including comfort with rapid technological change, preference for digital communication, and intuitive understanding of social media dynamics (Boutaky, El Ouadoudi and Mabrouki, 2023, p. 8). However, they also note that while Gen Z possesses inherent digital familiarity, this does not automatically translate to business-focused digital competence, highlighting the need for entrepreneurship-specific digital skills training.

Kirkwood (2016) adds an important dimension by examining how women and men business owners perceive success differently, finding that gender shapes not only entrepreneurial motivation but also the criteria by which entrepreneurs evaluate their own outcomes. Women

entrepreneurs were more likely to emphasize work-life balance and personal satisfaction, while men prioritized financial indicators. For first-generation entrepreneurs who lack family business benchmarks for defining success, these gendered perceptions may further complicate the process of establishing clear goals and measuring progress, reinforcing the importance of understanding success as a construct with many dimensions.

Recent research by ZenBusiness shows the motivations and challenges faced by Gen Z entrepreneurs. According to the study, Gen Z entrepreneurs are highly motivated by the desire for financial independence and the flexibility that entrepreneurship can offer (ZenBusiness, 2023). Even so, they also report feeling overwhelmed by the complexities of starting a business, especially without the benefit of prior family business experience (Kratz, 2024). This sense of overwhelm, combined with a lack of access to traditional support structures, creates a significant barrier for many aspiring entrepreneurs within this generation. The pattern is familiar: the aspiration is there, the desire is there, but without the right combination of mindset, tools, and community, the gap between wanting to start and actually starting remains wide open.

2.6 Digital Skills and Entrepreneurial Ecosystems

The third research objective of this study is to assess how digital competencies and ecosystem engagement influence entrepreneurial persistence among first-generation entrepreneurs in the digital age. This section examines the literature on digital skills, technological competence, and the role of digital platforms in enabling entrepreneurial success.

Having built more than twenty companies across more than fifty countries, most of them digitally enabled, I can say from experience that digital tools changed everything about how I was able to compete. But the literature reviewed here reveals something I did not fully appreciate

until I analyzed the data for this research: digital skills do not drive success directly. They work through confidence, through access, through connection. The research confirms what I lived but could not quantify on my own.

2.6.1 The Importance of Digital Skills for Entrepreneurial Success

Digital competency is no longer optional for entrepreneurs. It is a baseline requirement for participation. Sousa and Rocha (2019) found that proficiency in innovation, leadership, and management is essential for running digitally-driven businesses. What their research makes clear is that digital adaptation is not a one-time adjustment but a continuous process. Entrepreneurs must learn new technologies, apply them to business problems, and manage the organizational change that follows.

What does digital competency actually require in practice? Patriak (2023) identifies the core demands: recognizing the skills and competencies necessary for each role within the organization, addressing gaps through targeted training, and building a culture of experimentation and innovation. For first-generation entrepreneurs who lack established networks and market access, digital competence is not an advantage. It is a necessity. Without it, the barriers that come with starting from scratch become even harder to overcome.

Laar et al. (2017) identify fundamental skills for succeeding in the digital era: technical expertise, information management, communication, collaboration, creativity, critical thinking, problem-solving, ethical awareness, cultural awareness, flexibility, self-direction, and continuous learning. Digital skills go beyond technical proficiency. They require a constellation of cognitive, social, and metacognitive capabilities that enable effective participation in digitally mediated environments. Laar et al. (2017) emphasize that digital literacy is not a static

competency but requires continuous updating as technologies evolve, meaning that entrepreneurs must develop meta-learning skills alongside specific digital tool proficiencies.

Digital skills alone are not enough. Research on entrepreneurial capability development demonstrates that integrated approaches combining digital skill training, mindset cultivation, and practical experience produce stronger outcomes than isolated technical instruction, especially for first-time entrepreneurs (Chotipurk, Nuchniyom and Lakkhongkha, 2023, p. 115). For first-generation entrepreneurs, this means digital capability development should be embedded within broader entrepreneurial education programs rather than treated as a separate technical track. I learned this the hard way: knowing how to use a tool matters far less than knowing why and when to use it.

2.6.2 Digital Entrepreneurship and Platform Engagement

How entrepreneurs collaborate has shifted fundamentally. Shen, Lindsay and Xu (2018) observe that digital tools have made designing, creating, and sharing products and services faster and more accessible. What this means in practice is that someone without a physical storefront or distribution network can now launch a business using shared platforms and common digital standards. Digital entrepreneurship is not traditional entrepreneurship moved online. It is a different model of venture creation altogether, enabled by infrastructure that did not exist a generation ago.

Platforms changed the economics of starting a business. Where entrepreneurs once needed physical storefronts, distribution networks, and large marketing budgets, digital platforms now enable them to reach customers, manage operations, and scale in ways that were previously accessible only to larger, resource-rich organizations (Tarmizi et al., 2023). Building loyalty and

trust remains essential in digital customer engagement, with successful entrepreneurs using platform features to establish credibility and maintain stakeholder relationships.

Srinivasan and Venkatraman (2018) emphasize a network-centric perspective on digital entrepreneurship. Achieving success in the digital world depends on how well entrepreneurs position their products and services within dynamic digital networks. By adopting a network-centric view, entrepreneurs can better understand how their choices to connect with digital platforms can support their entrepreneurial ventures and lead to success. Success in the digital age depends on the ability to position oneself within these networks. It is not solely based on individual demographic characteristics.

2.6.3 Artificial Intelligence as Resource Multiplier

Can technology replace the mentor you never had? Not entirely, but AI tools and digital platforms are getting closer. Olalekan et al. (2024) found that AI adoption significantly enhances decision-making quality and operational efficiency among entrepreneurs with limited resources. AI-powered tools enable entrepreneurs to perform analyses, generate content, and automate processes that would otherwise require significant human capital or specialized expertise, effectively opening access to business capabilities once reserved for well-funded teams (Olalekan et al., 2024, p. 750). First-generation entrepreneurs particularly benefit from AI tools, as these technologies can partially compensate for the absence of experienced advisors and established business knowledge within their networks.

Consider the scale of what has changed. The Interactive Advertising Bureau (2021) reports that the market-making internet has generated substantial economic value, creating new pathways for entrepreneurs to reach customers, build brands, and generate revenue through

digital channels. For first-generation entrepreneurs, this shift is not abstract. It means that founders who develop digital competencies can now access customer bases and distribution networks that were historically controlled by established industry players with inherited relationships.

Industry research confirms the centrality of digital engagement for modern entrepreneurs. The Hustle (2024) reports that 71% of entrepreneurs use social media as a primary growth strategy, highlighting the importance of digital marketing competencies. However, many entrepreneurs lack the training and resources needed to optimize these platforms for sustained business success. A survey by Zapier (2021) found that while 61% of Americans have considered starting a business, uncertainty in using necessary technology (26%) was among the barriers preventing action. Earlier data from the same research program revealed that among potential entrepreneurs, common barriers extended beyond technology to include insufficient knowledge of how to begin and lack of confidence in their ability to succeed (Zapier, 2021). This tells us that digital skills function not merely as operational tools but as enablers of entrepreneurial confidence and action.

2.6.4 Digital Entrepreneurship in Resource-Scarce Contexts

Not every entrepreneur starts with the same resources. In environments where capital, networks, and institutional support are limited, digital competencies become equalizing mechanisms tools that allow founders to start ventures and make strategic decisions despite the constraints around them (Ngoasong, 2018). For first-generation entrepreneurs, who often face exactly these resource limitations, the ability to use digital tools effectively is not a luxury. It is a survival skill. Samara and Terzian (2021) emphasize the unique challenges and opportunities for digital entrepreneurs in developing countries, including weak institutional infrastructure and the

use of family wealth and personal connections as sources of capital. Entrepreneurs in resource-constrained environments must develop adaptive strategies to compensate for institutional gaps, often relying on personal networks and family resources that are less accessible to first-generation entrepreneurs (Samara and Terzian, 2021, p. 290). However, Samara and Terzian (2021) note that digital technologies can partially address institutional constraints by providing access to global markets, international networks, and digital financial services.

This pattern resonates with my early experience. When I started my first ventures, I did not have capital, connections, or institutional backing. What I had was a willingness to learn digital tools and those tools became my entry point to delivering value to my customers I could not have reached otherwise. The literature confirms that digital competence in resource-scarce environments functions as an equalizing mechanism. For first-generation entrepreneurs, it is not an advantage. It is the baseline requirement for participation.

Digital skill development does not happen in a vacuum; it is shaped by who the entrepreneur is and what context they operate in. Women entrepreneurs, for example, face distinct challenges in digital skill acquisition and technology adoption, while simultaneously demonstrating innovative approaches to integrating digital tools with broader life priorities (Olsson and Bernhard, 2021, p. 385). These findings reinforce the need for a more specific understanding of how different populations of first-generation entrepreneurs experience digital skill development, rather than treating all founders as a single category.

2.6.5 Generational Differences in Digital Engagement

Each generation brings a different relationship with digital tools to the entrepreneurial table. Millennials were among the first to view online ventures as natural extensions of their

digitally-mediated lifestyles, demonstrating a clear shift toward embracing digital entrepreneurship (Mihalcea, Mitan and Vițelar, 2012, p. 283). That generational exposure to technology shapes entrepreneurial pathway preferences and suggests that subsequent generations may exhibit even stronger digital entrepreneurship orientations.

How entrepreneurs learn is shifting along generational lines. Gen Z and Millennials react uniquely to social norms and digital platforms in entrepreneurial contexts, with innovative millennial entrepreneurs demonstrating distinctive patterns of cyber-learning engagement utilizing digital platforms for continuous skill development and business performance enhancement (Hindrawati, Arisanty and Nurwahyuni, 2022, p. 820). Younger generations more readily integrate digital learning into their venture development processes, a pattern that has direct implications for how entrepreneurship support programs should be designed.

Among Gen Z in particular, social media is not merely a communication tool it is a learning environment. Gen Z entrepreneurs exhibit distinctive entrepreneurial orientation patterns shaped by their immersion in social media environments, with implications for how they identify opportunities, build networks, and communicate value propositions (Rinaldi and Herlina, 2022, p. 118). Gen Z entrepreneurs who effectively use social media for learning demonstrate higher levels of entrepreneurial intention and subsequent venture engagement. What stands out across all three generational studies is a consistent pattern: digital fluency does not automatically produce business competence, but it does create the conditions in which entrepreneurial learning accelerates.

2.7 Mentorship and Support Systems

If psychological traits are the engine and digital skills are the fuel, mentorship is the road map. The fourth research objective evaluates the impact of mentorship programs, peer networks, and collaborative digital ecosystems on sustaining first-generation entrepreneurs. This section examines the literature on external support systems and their role in enabling entrepreneurial persistence.

2.7.1 The Critical Role of Mentorship

Xero (2015) conducted research with the goal of identifying the distinguishing characteristics that separate thriving small businesses from those that fail. The study surveyed over 2,000 entrepreneurs in the U.S. and U.K., discovering that passion and financial investment are necessary but not always sufficient for success. Successful entrepreneurs prioritize learning from mistakes, investing in technology, spending quality time with loved ones, and cultivating strong relationships with mentors. The study makes clear the significance of integrating work and personal life and provides valuable insights into the behavior and attitudes of successful small business owners.

My own experience reflects this deficit directly. I did not have mentors growing up, no successful entrepreneur or business owner who took me under their wing and showed me the ropes. My mentors were books and conference speakers I listened to from a distance, people I never got to talk to or learn from personally. The practical and psychological consequences of that absence are discussed in Chapter 5.

2.7.2 Digital Mentorship and Entrepreneurial Development

What happens when the mentor you need does not live in your city, or exist in your network at all? Digital mentorship platforms are beginning to answer that question. Research on

digital entrepreneurship development demonstrates that online mentorship programs can effectively substitute for traditional face-to-face guidance, enabling aspiring entrepreneurs to connect with mentors regardless of geographic location or existing social network limitations (Kurniasari, Sanjaya and Suranto, 2023, p. 128). For first-generation entrepreneurs who may lack access to mentors within their immediate networks, digital mentorship represents not a second-best option but a primary access point. Digital mentorship is particularly effective for younger entrepreneurs who are comfortable with technology-mediated communication and may prefer asynchronous guidance formats.

Mentorship does more than transfer knowledge; it creates social value. Research on micro-entrepreneurship in underprivileged communities reveals that structured mentorship programs reduce feelings of overwhelm and build resilience among founders operating in resource-constrained environments (Colovic and Schruoffenegger, 2021). For first-generation entrepreneurs who often operate in exactly these conditions, such community-based support structures can mean the difference between persistence and abandonment.

When direct mentorship is unavailable, structured digital learning can fill part of the gap. Research on e-learning for entrepreneurial skills demonstrates that online programs can effectively develop business competencies among aspiring entrepreneurs who lack access to traditional educational pathways (Vučeković, Medić and Marković, 2020). For first-generation entrepreneurs, digital learning platforms serve as a partial substitute, providing structured knowledge acquisition that supplements the informal learning these founders must piece together on their own. Papageorgiou et al. (2021) extend this perspective, emphasizing that digital communication technologies have fundamentally altered how entrepreneurial knowledge is transmitted, creating both opportunities and challenges for educational institutions preparing the

next generation of entrepreneurs. For first-generation entrepreneurs who lack family-based learning channels, these digitally-mediated environments represent critical access points for developing knowledge and skills that their peers with business family backgrounds absorb informally.

2.7.3 Social Capital and Network Access

Who you know still matters, perhaps more than it should. Social capital, defined as the resources accessible through network connections, serves as a critical determinant of venture success. Entrepreneurs without pre-existing network ties must invest substantially more time and effort in building social capital, creating a resource disadvantage compared to those who inherit business networks from family connections (Porrás-Paez and Schmutzler, 2019, p. 775). Porrás-Paez and Schmutzler (2019) identify lead actors within ecosystems, such as accelerators, mentors, and established entrepreneurs, as essential bridges that can connect first-generation entrepreneurs to resources otherwise inaccessible to them.

Putro, Rahayu and Sudjatno (2022) provide evidence that social networks within entrepreneurship are vital for providing support and reducing the perceived barriers to entry. Their study of MSMEs found that entrepreneurs with stronger social capital produced higher rates of business survival and growth. Social capital operates through multiple mechanisms including information access, resource mobilization, and emotional support each contributing independently to entrepreneurial outcomes (Putro et al., 2022, p. 8). First-generation entrepreneurs can develop social capital through deliberate networking strategies, participation in entrepreneurial communities, and engagement with formal support programs, providing actionable pathways for overcoming initial network disadvantages.

2.7.4 The Role of Entrepreneurial Role Models

Role models matter, and their absence matters equally. Boldureanu et al. (2020) demonstrate that successful entrepreneurial role models in higher education institutions significantly influence students' entrepreneurial intentions and identity development. Exposure to entrepreneurial exemplars shapes aspiring entrepreneurs' self-perceptions and career choices, with education programs incorporating role models showing significantly higher effectiveness in developing entrepreneurial identity, particularly among students from non-entrepreneurial family backgrounds (Boldureanu et al., 2020, p. 10). Role model exposure can partially substitute for family entrepreneurial background, providing vicarious learning experiences that develop entrepreneurial self-efficacy. For first-generation entrepreneurs, this finding is not theoretical. It describes the gap they live with every day.

2.7.5 Ecosystem Participation and Partnership Programs

Aulia et al. (2024) demonstrate that participation in entrepreneurial ecosystems and partnership programs is critical for entrepreneurs seeking to expand their networks and access resources. Their research on MSMEs found significant positive relationships between ecosystem engagement and business performance outcomes. Communication behavior and social network development within partnership programs significantly predict business performance, with entrepreneurs who actively engage in ecosystem activities demonstrating higher growth rates and survival (Aulia et al., 2024, p. 165). Digital platforms have expanded access to partnership opportunities, enabling entrepreneurs in resource-scarce environments to participate in ecosystems previously limited to those with geographic or social proximity to established business communities.

According to Banerji and Reimer (2019), fundraising by a company was strongly predicted by the number of followers the founder had on their LinkedIn profile. Based on their findings, startup companies with well-connected founders have greater access to resources. This research suggests that network size and quality, whether developed organically or deliberately, significantly influences entrepreneurial outcomes including access to capital.

Entrepreneurship is not easy; world-class startup accelerators like Techstars and Y Combinator have an acceptance rate of only 1–2%, lower than Harvard, which is at about 5% (Karpis, 2017). Karpis (2017) notes that gaining entry to top accelerator programs requires demonstrating exceptional potential, with selection criteria emphasizing team capabilities, market opportunity, and evidence of traction. First-generation entrepreneurs may face additional challenges in accessing these competitive programs due to limited networks and fewer opportunities for warm introductions. I have seen this firsthand. When you do not know anyone in the ecosystem, when you do not have a warm introduction, the door is harder to open. Not because you lack capability, but because the system was not designed with you in mind.

2.8 Toward an Integrated Framework

The fifth research objective of this study is to develop an interdisciplinary framework that evaluates the interaction between psychological traits, digital skills, and external support systems in driving entrepreneurial persistence among first-generation entrepreneurs. This section examines literature that addresses the integration of multiple factors in understanding entrepreneurial success.

2.8.1 The Multidimensional Nature of Entrepreneurial Success

Entrepreneurial success is a subjective concept that extends beyond financial metrics. Wach, Stephan and Gorgievski (2016) develop an integrative multi-factorial measure that captures the many dimensions of entrepreneurial success. Their research demonstrates that entrepreneurial satisfaction is a valid and meaningful indicator of entrepreneurial outcomes. Entrepreneurial success encompasses multiple dimensions including financial performance, personal fulfillment, stakeholder relationships, and work-life balance, with satisfaction serving as an integrative indicator that captures the overall quality of entrepreneurial experience (Wach, Stephan and Gorgievski, 2016, p. 1105). This dissertation validates the use of satisfaction measures in entrepreneurship research, providing methodological support for examining first-generation entrepreneurial outcomes beyond traditional financial metrics.

Staniewski (2016) observes that interest in entrepreneurship is on the rise, attracting attention from policymakers who view it as a solution to current economic and social challenges and researchers looking into the subject with greater complexity. Beyond economic interest, entrepreneurship appeals to those aiming for personal career growth, preferring to create their own success over traditional salaried roles or working toward enriching their employers. This interest is due to entrepreneurship's perceived societal and economic benefits. For first-generation entrepreneurs, success may be particularly tied with personal satisfaction, positively impacting others, and ultimately fulfilling personal dreams rather than solely financial metrics.

2.8.2 The Interaction of Psychological Traits and Social Networks

Pérez-Fernández et al. (2022) demonstrate that interactions between need for achievement and social networks drive entrepreneurial intention. Their research applies trait activation theory to explain how personality traits interact with environmental factors to produce entrepreneurial outcomes. Social networks moderate the relationship between psychological

traits and entrepreneurial intention, with high-quality networks amplifying the effects of achievement motivation on entrepreneurial behavior (Pérez-Fernández et al., 2022, p. 72). Entrepreneurs lacking strong networks may require higher levels of individual psychological traits to compensate for reduced network resources directly relevant for first-generation entrepreneurs.

This data collected has important implications for understanding first-generation entrepreneurship. When network resources are limited, psychological traits become even more critical for success. Conversely, strong support systems may partially compensate for lower levels of certain psychological traits. The relationship is not one-directional. It is reciprocal. Different configurations of psychological and support resources can lead to similar outcomes, providing multiple pathways to entrepreneurial success. If you grow up in an entrepreneurial household with strong networks, you may not need as much individual grit to get started. If you grow up without those networks, the psychological demands are higher. Either path can lead to success. But the cost is different.

2.8.3 Digital Ecosystems as Enabling Infrastructure

Digital entrepreneurship represents a fundamental shift in how ventures are created and scaled and that shift demands new analytical approaches. Sahut, Iandoli and Teulon (2021, p. 1163) argue that research on digital entrepreneurship should move to the micro-level, examining how digital tools enable rapid experimentation, customer validation, and business model iteration at unprecedented speed. Digital platforms facilitate collaboration and knowledge sharing, creating opportunities for entrepreneurs to access resources and expertise previously limited to those with established business networks.

Irawan (2021) documents that advanced technologies such as cloud services, augmented/virtual reality, and artificial intelligence are driving the transformation of business and communication toward digital entrepreneurship. Digital entrepreneurship significantly impacts economic development and societal structures, enabling new forms of value creation and distribution that go beyond traditional geographic and industrial boundaries (Irawan, 2021, p. 155). Digital entrepreneurship enables investigation and exploitation of digital business opportunities in ways that create substantial economic value while potentially addressing social challenges.

2.8.4 The Economic and Social Value of Entrepreneurship

The literature consistently establishes the broad importance of entrepreneurship for economic and social development. Van Praag and Versloot (2007) demonstrate that entrepreneurs play a significant role in creating jobs, driving economic growth, and lowering unemployment. Entrepreneurial ventures create a more diverse and flexible labor market, generating more employment opportunities and innovation than non-entrepreneurial firms (Van Praag and Versloot, 2007, p. 370). That is not an abstract observation. Entrepreneurs create the jobs, the innovation, and the economic activity that move communities forward. The value of entrepreneurship extends beyond economic metrics to include innovation, competitive dynamics, and societal progress, establishing the significance of understanding factors that enable entrepreneurial success.

Galindo and Méndez-Picazo (2013) establish the link between entrepreneurial activity and innovation outcomes, demonstrating that companies run by entrepreneurs are known for creating and selling high-quality innovations, which are essential for staying competitive and achieving economic growth. Galindo and Méndez-Picazo (2013) emphasize that supporting

entrepreneurial persistence is essential not only for individual venture success but for broader economic innovation and competitiveness.

Ranjan (2019) argues that entrepreneurship plays a vital role as a promoter of economic activity and as an innovation factor, with entrepreneurs serving as catalysts for community development and social progress. Entrepreneurs improve people's lives by addressing societal needs. They improve infrastructure and contribute to poverty reduction by creating jobs and increasing income. Understanding factors that enable entrepreneurial success is essential for promoting economic development, particularly in underserved communities where entrepreneurship may represent a primary pathway to prosperity.

Data from industry sources reinforces the economic significance of entrepreneurship. According to Ferguson (2023), 99.9% of businesses in the U.S. are small businesses, and most have fewer than five employees. Small businesses continue to represent the backbone of the American economy, with entrepreneurial activity demonstrating resilience despite economic uncertainties. Ferguson (2023) emphasizes the ongoing importance of supporting entrepreneurial persistence, particularly among first-time venture creators who face elevated failure risks. According to U.S. Census Bureau (2021) data, entrepreneurs fuel economic expansion, typically beginning their journeys just as many businesses do: as small startups. The Census data makes clear that supporting first-generation entrepreneurs has broad economic implications, as the majority of business creation occurs at the small and micro-enterprise level.

2.8.5 Gaps in Existing Frameworks

Despite the substantial literature on psychological traits, digital competencies, and support systems, no interdisciplinary framework exists that explains how these factors interact to

enable or constrain the transition from entrepreneurial aspiration to action among first-generation entrepreneurs operating in digitally-mediated environments. Existing research has examined these factors as independent constructs (Salisu et al., 2020; Patriak, 2023; Xero, 2015), yet the mechanisms through which they combine to produce entrepreneurial outcomes remain underspecified.

The Digital Entrepreneurial Ecosystem model (Sussan and Acs, 2017) provides valuable insights into how digital infrastructure enables entrepreneurial activity, yet treats entrepreneurs as digital citizens without accounting for the internal barriers faced by those without family business exposure. This gap is particularly consequential for understanding first-generation entrepreneurs, who must simultaneously develop psychological resources, digital competencies, and support networks that second-generation entrepreneurs often inherit.

There has been little research on the factors or characteristics of entrepreneurial success primarily focused on first-generation entrepreneurs. The changing times ultimately drive more people to entrepreneurship, including first-generation entrepreneurs who see entrepreneurship and the aspiration of entrepreneurial success as a calling, a dream, or a responsibility. This research aims to address these gaps by developing an integrated framework that explains the specific characteristics enabling first-generation entrepreneurs to bridge the aspiration-action gap and persist through the critical early stages of their ventures.

2.9 Summary and Identified Gaps

This literature review has examined scholarship across five interconnected domains relevant to understanding first-generation entrepreneurship in the digital age. The theoretical foundations established by Bandura (1986, 1997) provide critical insight into how first-

generation entrepreneurs develop self-efficacy and entrepreneurial capabilities in the absence of family business exposure, with alternative sources of vicarious learning such as mentors, peer networks, and digital communities serving as essential substitutes. Barnir and McLaughlin (2011) reinforce this foundation by demonstrating the intergenerational transmission of entrepreneurial capability through parental self-employment, clarifying precisely what first-generation entrepreneurs lack and must build through alternative pathways.

Across the literature, psychological traits emerge consistently as core drivers of entrepreneurial persistence. Grit, resilience, self-efficacy, and passion are not fixed qualities. They can be developed, and the evidence suggests that first-generation entrepreneurs who receive targeted support show the strongest gains (Martínez-González et al., 2022). Self-efficacy influences persistence through its effect on passion (Cardon and Kirk, 2015), and social networks moderate the entire relationship (Pérez-Fernández et al., 2022). These patterns hold in digital contexts as well (Oyeyemi et al., 2024).

The examination of socio-cultural factors establishes that first-generation entrepreneurs face distinct legitimacy challenges that must be addressed through deliberate strategy. Chababi, Chreim and Spence (2017), Karlsson and Williams-Middleton (2015), and Williams Middleton (2013) collectively demonstrate the importance of legitimacy-building strategies for entrepreneurs without inherited reputational capital. Beckers and Blumberg (2013) provide longitudinal evidence that entrepreneurial participation increases across generations as social capital accumulates, reinforcing the structural nature of the barriers first-generation entrepreneurs face. The literature consistently indicates that social capital and network access significantly influence entrepreneurial outcomes, with Porras-Paez and Schmutzler (2019) and

Putro et al. (2022) establishing that first-generation entrepreneurs face distinct disadvantages in network access that must be addressed through deliberate ecosystem engagement.

Digital skills and ecosystem engagement emerge as increasingly critical factors for entrepreneurial success. The work of Sussan and Acs (2017), Patriak (2023), and Srinivasan and Venkatraman (2018) establishes that digital competencies enable entrepreneurs to access resources, build networks, and scale ventures in ways previously unavailable to those without established connections. Chotipurk, Nuchniyom and Lakkhongkha (2023) emphasize that digital capability development must be integrated with mindset cultivation, while Olsson and Bernhard (2021) highlight the demographic dimensions of digital skill acquisition. AI tools and digital platforms offer promising pathways for first-generation entrepreneurs to overcome traditional resource constraints (Olalekan et al., 2024).

Mentorship emerges as one of the most consequential factors, with Boldureanu et al. (2020) demonstrating that role model exposure can partially substitute for family entrepreneurial background. Xero (2015) and Kurniasari, Sanjaya and Suranto (2023) establish that mentorship relationships significantly influence entrepreneurial outcomes, while digital mentorship platforms expand access to guidance for entrepreneurs lacking traditional network connections. Vučeković, Medić and Marković (2020) and Papageorgiou et al. (2021) provide evidence that digital learning environments and digitally-mediated entrepreneurship education can serve as critical knowledge channels for first-generation entrepreneurs who lack family-based learning pathways.

Despite this substantial body of research, significant gaps remain. First, no interdisciplinary framework exists that explains how psychological traits, digital competencies, and support systems interact to enable first-generation entrepreneurs to transition from aspiration

to action. Second, the relative contribution of each factor domain to entrepreneurial outcomes remains underspecified. Third, limited research more precisely addresses the unique challenges and enabling factors for first-generation entrepreneurs as a distinct population. This study aims to address these gaps by developing an integrated framework grounded in empirical evidence from a large-scale survey of first-generation entrepreneurs.

The literature reviewed in this chapter establishes several convergent findings that frame the present study. First, psychological traits—particularly self-efficacy (Bandura, 1997; Newman et al., 2019), perseverance and resilience (Salisu et al., 2020), and the self-efficacy-to-persistence relationship (Cardon and Kirk, 2015)—are consistently identified as foundational to entrepreneurial persistence. Second, first-generation entrepreneurs face documented structural disadvantages shaped by the absence of intergenerational business exposure (Barnir and McLaughlin, 2011; Chababi, Chreim and Spence, 2017), including reduced access to the social capital and network relationships that support entrepreneurial success (Putro, Rahayu and Sudjatno, 2022). Third, digital entrepreneurial ecosystems offer enabling infrastructure that may partially compensate for these disadvantages (Sussan and Acs, 2017; Sahut, Iandoli and Teulon, 2021), though the mechanisms through which digital competencies translate into entrepreneurial outcomes remain underexplored (Ngoasong, 2018). These three threads—psychological drivers, structural gaps, and digital enablement—constitute the interdisciplinary foundation from which the present study's research objectives and analytical framework are derived. Chapter 3 presents the methodology employed to examine these relationships empirically.

CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter lays out the research design and methodological decisions behind this study. The goal is straightforward: to explain how this investigation was structured, why specific choices were made, and how the data was collected and analyzed so that the study can be evaluated on its merits and replicated by other researchers. Coming from an engineering background, I chose a quantitative approach deliberately. The data speaks for itself, and the methodology described here was designed to remove the personal bias that could have shown up in a qualitative study (Creswell and Creswell, 2018).

The central research question guiding this study is: What characteristics, specifically psychological traits, digital competencies, and external support systems, enable first-generation entrepreneurs to transition from entrepreneurial aspiration to action and persist through the critical early stages of their ventures in the digital age? Five specific research objectives were developed to address this question, each targeting a distinct analytical focus within the study.

The chapter is organized into seven sections following this introduction. Section 3.2 describes the research design, including why a quantitative, cross-sectional survey approach was selected. Section 3.3 defines the population under study and the sampling strategy used to recruit participants. Section 3.4 covers the data collection procedures and survey instrument, including reliability and validity. Section 3.5 outlines the step-by-step procedures followed in conducting the research. Section 3.6 presents the data analysis techniques and acknowledges the limitations

of the study design. Section 3.7 addresses ethical considerations. Section 3.8 provides a summary.

3.2 Research Design

My investigation used a quantitative, cross-sectional survey design to examine the factors that influence entrepreneurial persistence among first-generation entrepreneurs. The choice of a quantitative methodology was deliberate. As I noted in my approach to this research, I looked at the data objectively and calculated what the data was telling me. A quantitative approach helped remove personal bias that could have shown up in a qualitative study or in interpreting conversations with entrepreneurs (Field, 2018).

The cross-sectional design captured entrepreneurial experience at a single point in time, making it possible to examine relationships between psychological traits, digital competencies, support systems, and entrepreneurial outcomes across a large and diverse sample. This design cannot establish causal relationships, but it provides strong evidence of associations and predictive patterns that inform both theory and practice (Hair et al., 2019).

3.2.1 Research Objectives

Five research objectives guided the study, each organized with specific survey items and analytical procedures:

Objective 1: Analyze Psychological Traits and Motivational Drivers. To identify and examine key psychological traits (resilience, grit, emotional intelligence, and entrepreneurial passion) alongside intrinsic and extrinsic motivational drivers, including financial independence, flexibility, and self-fulfillment. These traits and drivers are essential for first-generation

entrepreneurs working to overcome barriers, persist through challenges, and transition from aspiration to action (Newman et al., 2021; Salisu et al., 2020).

Objective 2: Understand Socio-Cultural and Legitimacy-Building Factors. To investigate how familial backgrounds, trust-based networks, and credibility-building strategies shape entrepreneurial behaviors among first-generation entrepreneurs (Karlsson and Williams-Middleton, 2015; Chababi, Chreim and Spence, 2017).

Objective 3: Evaluate Digital Skills, Literacy, and Entrepreneurial Ecosystems. To assess how digital competencies and ecosystem engagement influence entrepreneurial persistence among first-generation entrepreneurs in the digital age (Patriak, 2023; Sussan and Acs, 2017).

Objective 4: Assess the Role of Mentorship, Digital Ecosystems, and Community. To evaluate the impact of mentorship programs, peer networks, and collaborative digital ecosystems on sustaining first-generation entrepreneurs (Xero, 2015; Colovic and Schruoffenegger, 2021).

Objective 5: Develop an Interdisciplinary Framework. To develop an interdisciplinary framework the FGEP Framework that evaluates the interaction between psychological traits, digital skills, and external support systems in driving entrepreneurial persistence among first-generation entrepreneurs.

3.2.2 Rationale for Quantitative Methodology

The quantitative methodology was selected for several reasons. First, the research questions required examining relationships across multiple variables at the same time, which is best accomplished through statistical analysis of survey data (Creswell and Creswell, 2018). Second, the goal of building an integrated framework required the ability to assess the relative contribution of different factors to entrepreneurial outcomes, which regression analysis provides.

Third, the study aimed to compare first-generation and non-first-generation entrepreneurs, as well as generational differences, requiring comparative statistical techniques such as independent samples t-tests and chi-square analyses (Cohen, 1988).

There is also a personal dimension to this choice. I am an engineer by training. I think in systems, in inputs and outputs, in cause and effect. When I set out to study the entrepreneurial journey, a journey I have lived for over fifteen years, I wanted to make sure the findings were not colored by my own story. A quantitative approach gave me that distance. It let the data speak without my experience drowning it out. The structured survey instrument ensured consistency in data collection across all participants, reducing measurement error and strengthening reliability (Field, 2018). The larger sample size, which would not have been possible with qualitative methods, also strengthened the ability to generalize findings to the broader population of first-generation entrepreneurs.

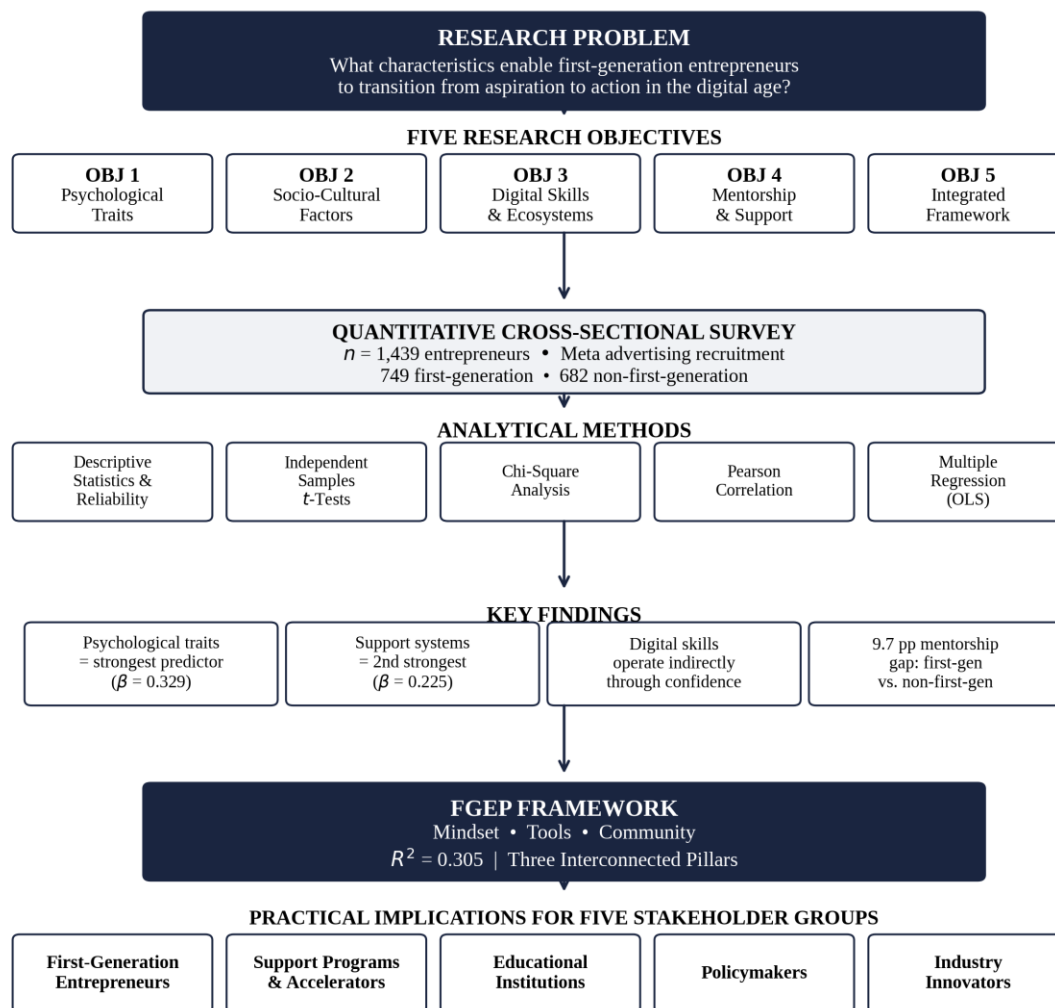


Figure 3.1. Research design overview illustrating the flow from research problem through five research objectives, quantitative cross-sectional survey methodology ($n = 1,439$), analytical methods, and culminating outputs including the FGEP Framework and practical implications for five stakeholder groups.

3.3 Population and Sample

3.3.1 Target Population

The target population for this study consisted of first-generation entrepreneurs who have started at least one business venture. First-generation entrepreneurs are defined as those who started their businesses without any prior family business experience (Kazmi, 1999). This

population was selected because these individuals face unique challenges in making the jump from aspiration to action. They lack the inherited business knowledge, networks, and social capital that entrepreneurs from business families typically have (Chababi, Chreim and Spence, 2017).

The study also included non-first-generation entrepreneurs as a comparison group to put findings in context and identify characteristics that are distinct to first-generation entrepreneurs. The primary analytical focus remained on first-generation entrepreneurs, with particular attention to Generation Z members (born 1997–2012) who represent a new wave of entrepreneurs working within digital entrepreneurial ecosystems.

3.3.2 Sampling Strategy

A non-probability sampling approach combining purposive and targeted sampling techniques was used to recruit participants. This strategy was necessary because there is no complete sampling frame for first-generation entrepreneurs. There is no master list. You cannot pull a random sample from a population that has never been fully cataloged. The approach was designed to reach individuals actively engaged with entrepreneurship and digital ecosystems.

Recruitment was conducted exclusively through targeted advertising on Meta platforms (Facebook and Instagram). Advertisements were designed to reach individuals aged 18–44 who showed interest in entrepreneurship and business development, using Meta’s Advantage+ detailed targeting to filter for small business owners, entrepreneurs, founders, and individuals in business networking and entrepreneurial communities. Participants were offered a \$10 Visa Gift Card as an incentive for survey completion. Multiple ad campaigns were deployed across

geographic regions including the United States, Canada, the United Kingdom, and Australia to maximize reach and ensure diverse representation within the target population.

I used my marketing background to run targeted ads on Meta platforms (Facebook and Instagram), reaching people aged 18–44 whose profiles indicated interest in entrepreneurship, small business ownership, or related professional roles. The campaign used behavioral targeting filtering for small business owners, founders, directors, and individuals in entrepreneurial networks and ran across the United States, Canada, the United Kingdom, and Australia. A \$10 Visa Gift Card incentive was offered for survey completion. That targeting immediately created a filter. People who did not identify with the ad copy or visuals, people who are not active on Meta platforms, or people who do not click on ads were never exposed to the survey. Because of that, the sample was not random but a targeted group that already had some level of interest in business or entrepreneurship.

3.3.3 Sample Size Determination

The target sample size was established at 800–1,200 participants, based on statistical power analysis for the planned analytical procedures. This range was designed to provide sufficient statistical power for detecting small effect sizes ($f^2 = 0.02$) with power exceeding 0.95 at $\alpha = 0.05$ for multiple regression analyses (Cohen, 1988). The target also ensured adequate representation across demographic subgroups for comparative analyses.

The final analytical sample came in at 1,439 complete and valid responses exceeding the target by a significant margin. That sample size enables strong statistical analyses including correlation, regression, and group comparisons while providing meaningful subgroup sizes for

examining first-generation versus non-first-generation differences and generational comparisons between Generation Z and Millennial entrepreneurs.

3.3.4 Selection Criteria

Participants were required to meet the following inclusion criteria: (a) have started at least one business venture, (b) be at least 18 years of age, and (c) have access to the internet to complete the online survey. No restrictions were placed on industry type, geographic location within the target regions, or venture stage, allowing for diverse representation across the entrepreneurial population.

First-generation status was determined through the survey item: “While growing up, did you have a close family member you spent time with regularly that owned a business?” Respondents answering “No” were classified as first-generation entrepreneurs ($n = 749$, 52.1%), while those answering “Yes” were classified as non-first-generation entrepreneurs ($n = 682$, 47.4%). This definition matches well with established definitions in the entrepreneurship literature that point to the absence of familial business exposure as the defining characteristic of first-generation entrepreneurship (Kazmi, 1999).

Although the informed consent form described participant requirements in terms of the primary target population (first-generation entrepreneurs born between 1981 and 2012), responses from non-first-generation entrepreneurs were retained to provide a comparison group essential for contextualizing the first-generation findings. This analytical strategy is consistent with the research design described in Section 3.3.1, which specifies that non-first-generation

entrepreneurs serve as a comparison population. The 8 respondents (0.6%) whose first-generation classification data were missing, as well as the 10 respondents from Generation X ($n = 8$) and Generation Alpha ($n = 2$), were retained in overall sample analyses where their data were complete but excluded from generational subgroup comparisons. This approach ensures the full analytical sample of $n = 1,439$ is accounted for transparently: 749 first-generation (52.1%) + 682 non-first-generation (47.4%) + 8 unclassified (0.6%) = 1,439.

3.3.5 Sample Characteristics

The achieved sample produced the following demographic characteristics:

Generational Distribution. The sample achieved near-equal representation of Generation Z ($n = 720$, 50.0%) and Millennials ($n = 709$, 49.3%), with minimal representation from Generation X ($n = 8$, 0.6%) and Generation Alpha ($n = 2$, 0.1%). This distribution enables meaningful generational comparisons between the two primary cohorts.

Gender Distribution. Male respondents made up 64.0% of the sample ($n = 921$), with female respondents representing 35.2% ($n = 507$). A small number of respondents preferred not to disclose ($n = 3$, 0.2%), with 8 responses missing (0.6%).

Educational Attainment. The majority of respondents held at least a bachelor's degree (44.2%), with additional respondents holding associate's degrees (23.3%) or having completed some college (18.1%). Respondents with master's degrees or higher made up 8.4% of the sample, while those with a high school education or less represented 5.4%.

Geographic Distribution. The majority of respondents were located in the United States (73.6%), with additional representation from Canada (13.1%), Europe (6.7%), Asia-Pacific

(2.8%), and other regions (3.3%). The predominantly North American sample (86.7%) reflects the geographic targeting parameters of the Meta advertising campaigns.

Entrepreneurial Status. The overwhelming majority of respondents (93.9%) were actively engaged in entrepreneurship, either currently running a business (74.3%) or in the process of starting one (19.6%). This distribution indicates that the sample captures entrepreneurs at various stages of the venture creation process.

Target Population. The intersection of first-generation status and Generation Z membership identified 358 respondents (24.9%) meeting both criteria. These are the founders building businesses without the family playbook that others inherit the ones writing the first chapter of their family's entrepreneurial story.

3.4 Data Collection and Instrumentation

3.4.1 Survey Instrument Development

A structured online survey served as the primary data collection instrument, consisting of 39 items across six sections designed to capture psychological traits, digital skills, socio-cultural factors, support systems, entrepreneurial outcomes, and demographic characteristics. The survey was developed through an iterative process that drew on validated scales from the literature, pilot testing, and refinement based on feedback.

The design of each section was grounded in established theoretical frameworks and validated measurement instruments. Questions addressing psychological traits drew on adaptations of the Grit Scale (Salisu et al., 2020) and measures of entrepreneurial passion (Newman et al., 2021). Digital skills items were developed based on the Digital Entrepreneurial Ecosystem framework (Sussan and Acs, 2017) and digital literacy work by Patriak (2023).

Support systems measures were informed by research on mentorship and peer networks in entrepreneurial settings (Xero, 2015; Colovic and Schruoffeneger, 2021).

Why these specific constructs? Because they map directly to what I have observed in fifteen years of working with early-stage entrepreneurs. The entrepreneur who believes in herself but cannot use digital tools to reach customers is stuck. The entrepreneur with every digital tool at his disposal but no psychological resilience will quit at the first real setback. And the entrepreneur who has both mindset and skills but no community or mentorship will take years longer than necessary to figure out what others could have taught them in months. The survey was designed to measure all three legs of that stool.

3.4.2 Survey Sections and Item Structure

The survey instrument comprised 39 items across six sections as presented to participants (see Appendix A for the complete instrument). For analytical purposes, items were regrouped into six construct-aligned domains that correspond to the research objectives. The descriptions below reflect this analytical grouping; where it differs from the survey presentation order, the original survey section and item numbers are noted in parentheses:

Section 1: Demographic Information (Survey Section 1: “About You,” Q2–Q8). This section collected background information including generational cohort membership (Q2), gender (Q5), educational attainment (Q6), employment status (Q7), and geographic location (Q8). These variables served as controls in analytical models and enabled subgroup analyses. Two items from this survey section first-generation status (Q3) and current venture engagement (Q4) were reassigned to the Entrepreneurial Background domain for analytical purposes, as described below.

Section 2: Entrepreneurial Background (items drawn from Survey Section 1, Q3–Q4). For analytical purposes, items assessing entrepreneurial context were grouped separately from demographic controls. This domain includes first-generation status (Q3) and current entrepreneurial engagement (Q4). The critical item determining first-generation status asked: “While growing up, did you have a close family member you spent time with regularly that owned a business?” This single binary item served as the primary classification variable distinguishing first-generation from non-first-generation entrepreneurs throughout all analyses.

Section 3: Psychological Traits (Survey Section 2: “Your Personal Characteristics,” Q9–Q14). Six items measured grit (Q9), resilience (Q10), stress management (Q11), entrepreneurial identity (Q12), entrepreneurial passion (Q13), and self-efficacy (Q14). All items used 5-point Likert scales ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale confirmed good internal consistency ($\alpha = 0.769$), as detailed in Section 3.4.3.

Section 4: Digital Skills and Ecosystem Engagement (items drawn from Survey Section 3: “Digital Tools and Technology,” Q15–Q19, and Survey Section 4: “Trust and Cultural Factors,” Q24). For analytical purposes, items measuring digital competency were grouped regardless of their original survey section. This domain includes digital tool proficiency (Q16), digital tool importance (Q18), and social media effectiveness (Q24). Additional descriptive items from Survey Section 3 digital tool usage frequency (Q15), specific tools used (Q17), and challenges accessing tools (Q19), informed supplementary analyses reported in Chapter 4.

Section 5: Support Systems and Socio-Cultural Factors (items drawn from Survey Section 5: “Mentorship and Support,” Q25–Q29, and Survey Section 4: “Trust and Cultural Factors,” Q20–Q21). This analytical domain combines mentorship and peer support items with socio-cultural context items. Mentorship importance (Q27) and peer network helpfulness (Q29)

formed the support systems scale ($\alpha = 0.614$). Trust and credibility importance (Q20) and cultural background influence (Q21) were grouped as socio-cultural factors ($\alpha = 0.338$); due to poor internal consistency, these items were analyzed both as a composite and individually, as detailed in Section 3.4.3. Additional descriptive items from Survey Section 5 mentorship receipt (Q25), mentorship type (Q26), and support systems used (Q28) informed supplementary analyses in Chapter 4.

Section 6: Entrepreneurial Outcomes and Decision Context (Survey Section 6: “Barriers and Decision-Making,” Q30–Q38). The final survey section captured both the primary dependent variable and contextual items related to barriers and decision-making. The primary dependent variable, entrepreneurial satisfaction, was measured through item Q38: “How satisfied are you with your entrepreneurial journey so far?” Responses were recorded on a 5-point Likert scale ranging from 1 (Very Dissatisfied) to 5 (Very Satisfied). This measure aligns with established approaches to entrepreneurial success that extend beyond purely financial metrics to include subjective well-being and perceived progress (Wach, Stephan and Gorgievski, 2016). Additional items in this section captured barriers faced (Q30), fear of failure (Q31), college deferral decisions (Q32), risk evaluation approach (Q33), funding sources (Q34), current revenue (Q35), revenue change (Q36), and business milestones achieved (Q37). These items provided descriptive context reported in Chapter 4 and informed the interpretation of regression findings in Chapter 5.

3.4.3 Reliability Analysis

Internal consistency of measurement scales was assessed using Cronbach’s alpha coefficients. Scales with alpha coefficients of 0.70 or above were considered to have good internal consistency (Hair et al., 2019), while coefficients between 0.60 and 0.70 were

considered acceptable for exploratory research purposes (Nunnally and Bernstein, 1994). Table 3.1 presents the reliability statistics for all measurement scales.

Table 3.1 Reliability Statistics for Measurement Scales

Scale	Items	Cronbach's α	Interpretation
Psychological Traits	6	0.769	Good
Digital Skills	3	0.724	Good
Support Systems	2	0.614	Acceptable*
Socio-Cultural Factors	2	0.338	Poor**

*Note. *Acceptable for exploratory research with two-item scales. **Poor internal consistency; items analyzed individually and as composite with caution.*

The psychological traits scale demonstrated the strongest internal consistency ($\alpha = 0.769$), followed by the digital skills scale ($\alpha = 0.724$), both exceeding conventional thresholds. The support systems scale showed moderate reliability ($\alpha = 0.614$), which remains acceptable given the exploratory nature of this investigation and the constraints that come with two-item scales (Eisinga, Grotenhuis and Pelzer, 2013). The socio-cultural factors scale showed poor reliability ($\alpha = 0.338$), indicating that trust and credibility importance and cultural background influence measure different things rather than a single unified construct. Following methodological guidance for scales with poor reliability (Hair et al., 2019), these items were analyzed both as a composite and individually with appropriate caution in interpretation.

Item-total correlations for the psychological traits scale ranged from 0.442 to 0.603, indicating all items contributed meaningfully to the construct. Self-efficacy (Q14) showed the

highest item-total correlation ($r = 0.603$), suggesting that confidence in one's ability to succeed is the most important component of the psychological traits construct. This evidence strengthens Bandura's (1997) theoretical framework, which positions self-efficacy as a fundamental driver of persistence and goal-directed behavior. That finding did not surprise me. If I do not believe I am capable (this idea of self-efficacy) if I do not believe I deserve it, or believe I can accomplish it, there is a high likelihood I will not follow through.

3.4.4 Validity Considerations

Content Validity. Content validity was established through the systematic development of survey items based on established theoretical frameworks and prior validated instruments. The use of adapted scales from recognized researchers including Salisu et al. (2020) for grit measurement and Newman et al. (2021) for entrepreneurial passion ensures that items adequately represent the constructs under investigation.

Construct Validity. Construct validity was supported by the pattern of correlations among variables, which aligned with theoretical expectations. Psychological traits correlated positively and significantly with entrepreneurial satisfaction ($r = .509$, $p < .001$), as predicted by theories of entrepreneurial persistence (Salisu et al., 2020). The strong correlation between psychological traits and digital skills ($r = .645$) supports the theoretical proposition that entrepreneurs with stronger psychological resources tend to demonstrate higher digital proficiency.

External Validity. External validity is limited by the non-probability sampling approach and the predominantly North American sample composition. The U.S.-centric nature of the sample (73.6%) means there is a large global population not captured in this data. I am aware of

my own position here — I am a first-generation entrepreneur born and raised in the United States. Even though I have traveled to more than 40 countries and worked with entrepreneurs around the world, the data itself is largely U.S.-based. While the internal entrepreneurial experience has many universal elements, external environments vary significantly across national and cultural contexts, and findings should be read with this geographic concentration in mind.

3.5 Procedures

3.5.1 Survey Platform and Administration

The survey was administered through Typeform, a professional online survey platform selected for its user-friendly interface, skip logic functionality, response validation, and secure data storage. The platform enabled consistent survey presentation across devices and provided real-time monitoring of response patterns.

I selected Typeform specifically because it is a tool that I currently use in my businesses and it allowed me to design a survey experience that felt conversational rather than clinical. When you are asking entrepreneurs to share their experiences, the instrument itself should not feel like a barrier.

Prior to full deployment, the survey underwent pilot testing with a small group of entrepreneurs to refine questions for clarity, reliability, and validity. Pilot feedback was incorporated to ensure smooth implementation and alignment with research objectives. Special attention was given to constructs like digital engagement and legitimacy-building to make sure items captured the intended dimensions.

It should be noted that while the informed consent form described the study's focus on first-generation entrepreneurs — those who did not have a close family member who owned a business while growing up — the survey was intentionally designed to collect responses from both first-generation and non-first-generation entrepreneurs. Non-first-generation respondents were recruited as a comparison group to enable between-group analyses, including independent samples t-tests and chi-square tests, that are central to the study's analytical framework. The consent form identified the study's primary population of interest, not an exclusion criterion. All respondents, regardless of first-generation status, provided informed consent and were eligible to participate.

3.5.2 Recruitment and Data Collection Timeline

Data collection was conducted in May 2025 through targeted advertising campaigns on Meta platforms (Facebook and Instagram). Multiple ad campaigns were deployed targeting entrepreneurs aged 18–44 across the United States, Canada, the United Kingdom, and Australia. The response pattern was concentrated: 93.7% of all 1,439 responses were received within the first three days of the primary campaign launch, with the survey remaining accessible on Typeform through early July to capture residual responses.

Response monitoring occurred throughout the collection period. Multiple ad creative variations were tested to maximize engagement across demographic segments. The concentrated response pattern, with over 93% of responses arriving within the first three days, indicated strong alignment between the targeting parameters and the intended population. Initial data review began during the collection period to identify and address any emerging issues with data quality.

3.5.3 Data Quality Procedures

Thorough data screening and cleaning procedures ensured data quality. These procedures included:

Removal of Incomplete Responses. Responses that did not reach survey completion were excluded from the analytical sample to ensure all cases had complete data on key variables.

Detection of Straight-Lining Patterns. Cases showing straight-lining identical responses across all items in a scale were flagged and reviewed to identify potential inattentive responding.

Elimination of Duplicate Submissions. Duplicate submissions, identified through IP address and response pattern analysis, were removed to ensure each participant contributed only once to the dataset.

Assessment of Outliers. Outlier detection was conducted using standardized scores, with cases showing z-scores exceeding ± 3.29 flagged for review. No cases were removed based on outlier analysis, as extreme scores appeared to represent genuine variation within the entrepreneurial population rather than data entry errors or invalid responses.

Missing data analysis revealed minimal missing values across key variables, with no variable showing more than 2% missing data. Given the low rates of missingness, listwise deletion was used for analyses requiring complete cases, consistent with recommendations for datasets with less than 5% missing data (Schafer and Graham, 2002).

3.6 Data Analysis and Limitations

3.6.1 Analytical Framework

Data analysis was conducted using Python within the Google Colab environment, with statistical computations using the pandas library for data structuring and SciPy for inferential testing. To ensure accuracy, I used AI tools as computational aids in developing and validating the Python analytical scripts, with all results independently cross-verified against the raw dataset. The interpretation of findings and all scholarly conclusions are entirely my own. This approach ensured a reproducible and transparent analytical workflow consistent with best practices in quantitative research methodology.

The engineer in me needed to see every calculation. Every number in this dissertation was verified by running the analysis independently against the raw data. If a statistic did not match, it was recalculated until the source of any discrepancy was identified and resolved. That level of precision matters because the people these numbers represent deserve accuracy, not approximation.

3.6.2 Statistical Procedures

The following analytical techniques were used to address the research objectives:

Descriptive Statistics. Descriptive analyses summarized the demographic characteristics of respondents and the distributions of key variables. Measures of central tendency (means) and dispersion (standard deviations) were calculated for all continuous variables, while frequencies and percentages were computed for categorical variables. These descriptive statistics provided essential context for interpreting subsequent inferential analyses.

Reliability Analysis. Internal consistency of measurement scales was assessed using Cronbach's alpha coefficients. Item-total correlations were examined to evaluate the contribution of individual items to overall scale reliability. Scales with alpha coefficients of 0.70 or above were considered to have good internal consistency (Hair et al., 2019).

Correlation Analysis. Pearson correlation coefficients were computed to examine bivariate relationships between key variables. Correlation matrices were generated for each research objective to identify significant associations between psychological traits, digital skills, support systems, and entrepreneurial outcomes. Effect sizes were interpreted according to Cohen's (1988) conventions: $r = 0.10$ (small), $r = 0.30$ (medium), and $r = 0.50$ (large).

Multiple Regression Analysis. Ordinary least squares (OLS) regression was used to examine the predictive relationships between independent variables and the dependent variable (entrepreneurial satisfaction). Multiple regression models were constructed, allowing for the examination of unique variance explained by each predictor while controlling for other variables. Model fit was evaluated using R-squared and adjusted R-squared values, while statistical significance was assessed at the $p < 0.05$ level. In addition to the full-sample model, separate regression models were estimated for the first-generation and non-first-generation subsamples to examine whether the predictive structure differed by group, and a moderation analysis using first-generation $\times$ predictor interaction terms formally tested the significance of any differences.

Comparative Analyses. Independent samples t-tests were used to compare first-generation and non-first-generation entrepreneurs, as well as Generation Z and Millennial respondents, on key study variables. Chi-square tests were used to examine differences in categorical variables between groups. Effect sizes (Cohen's d for t-tests, Cramér's V for chi-square) were calculated to assess the practical significance of observed differences.

3.6.3 Limitations

This study acknowledges several methodological limitations that affect the interpretation and generalizability of findings:

Sample and Generalizability Limitations. The majority of respondents (73.6%) were U.S.-based, which means there is a large global population not captured in this data. The U.S.-centric nature of the sample shapes the conclusions. I am also aware of my own bias — I am a first-generation entrepreneur born and raised in the United States. Even though I have traveled to more than 40 countries and worked with entrepreneurs around the world, the data itself is largely U.S.-based. While the internal entrepreneurial experience has many universal elements, external environments vary significantly across national and cultural contexts.

Sampling Method Limitations. The sample was not random but a targeted group that already had some level of interest in business or entrepreneurship. People who were already entrepreneurs or already thinking about entrepreneurship were more likely to click through and participate. The sample may over-represent digitally engaged, entrepreneurially inclined individuals while under-representing those who might benefit most from entrepreneurial support but are not yet actively engaged with entrepreneurial content online.

Self-Report and Measurement Limitations. All data were collected through self-report measures, introducing potential social desirability bias and common method variance. The potential impact of common method variance and remedies considered are discussed in detail in Section 5.7.3. Respondents may have overestimated their psychological traits, digital capabilities, or entrepreneurial satisfaction. While the use of validated scales and multiple indicators provides some protection against these biases, objective measures of entrepreneurial

outcomes such as revenue, employee counts, or venture survival would strengthen future research.

Cross-Sectional Design Limitations. This study used a cross-sectional design, capturing a snapshot of entrepreneurial experience at a single point in time. Traits like self-efficacy and grit are not static; they develop over time through experience. The cross-sectional design cannot establish causal relationships. While the regression analyses show that psychological traits predict entrepreneurial satisfaction, the study cannot determine whether psychological traits cause satisfaction or whether successful entrepreneurial experiences build psychological resilience.

Construct Measurement Limitations. The socio-cultural factors scale established poor internal consistency ($\alpha = 0.338$), suggesting that the items measured different things rather than a single unified construct. This limitation required individual item analysis alongside composite examination and calls for caution in interpreting findings related to this construct. Future research should develop more thorough measures of socio-cultural influences on entrepreneurship.

3.7 Ethics Related to Human Subject Participation

Ethical considerations were central to the research process and informed all aspects of study design, data collection, and analysis. The following ethical safeguards were put in place:

3.7.1 Informed Consent

All participants provided informed consent prior to survey participation. The consent form, presented at the beginning of the survey, briefed participants on the study's purpose, their rights as research participants, and data confidentiality measures. Participants were informed that

their participation was voluntary, that they could withdraw at any time without penalty, and that their responses would be used exclusively for the purposes of this research. Consent was obtained through an affirmative action (clicking “I accept” to proceed) that exhibited understanding of the study parameters. Participants were offered a \$10 Visa Gift Card as an incentive for survey completion. This incentive was disclosed in recruitment materials and was designed to acknowledge participants’ time investment while maintaining a level low enough to minimize coercive influence on participation decisions (Singer and Ye, 2013).

3.7.2 Confidentiality and Data Protection

Participant data were anonymized and stored on encrypted platforms to ensure confidentiality. No personally identifiable information was collected that could link responses to specific individuals. All data were stored securely with access restricted to authorized research personnel. Backup systems ensured data integrity throughout the research process.

3.7.3 Institutional Review

The research protocol was submitted for institutional ethics review. The study was determined to pose minimal risk to participants, as it involved only survey questions about entrepreneurial experiences and did not involve sensitive personal disclosures, experimental manipulations, or vulnerable populations. Appropriate approvals were obtained prior to data collection.

3.7.4 Data Use and Storage

Data collected through this research were used exclusively for the purposes outlined in this dissertation and related academic publications. Raw data will be retained securely for the period required by institutional policy and subsequently destroyed. Aggregated findings may be

shared in academic publications and presentations, but no individual participant data will be disclosed.

3.8 Summary

This chapter presented the methodological framework used to investigate the characteristics that enable first-generation entrepreneurs to transition from aspiration to action and persist through the early stages of their ventures in the digital age. The study used a quantitative, cross-sectional survey design guided by five research objectives addressing psychological traits, socio-cultural factors, digital competencies, support systems, and their integration into the FGEP Framework.

The target population consisted of first-generation entrepreneurs who have started at least one business venture. A non-probability sampling approach combining purposive and targeted techniques recruited 1,439 participants, exceeding the target sample size of 800–1,200. The sample achieved near-equal representation of Generation Z (50.0%) and Millennial (49.3%) cohorts, with 52.1% first-generation entrepreneurs and 47.4% non-first-generation entrepreneurs enabling strong comparative analyses.

The survey instrument consisted of 39 items across six sections, drawing on validated scales from the literature with indicated reliability. The psychological traits scale ($\alpha = 0.769$) and digital skills scale ($\alpha = 0.724$) showed good internal consistency, while the support systems scale ($\alpha = 0.614$) produced acceptable reliability for exploratory research. Data analysis used descriptive statistics, reliability analysis, Pearson correlations, multiple regression modeling, and comparative analyses using independent samples t-tests and chi-square tests.

The study acknowledges limitations including the U.S.-centric sample composition, non-probability sampling approach, reliance on self-report measures, and cross-sectional design. Ethical considerations including informed consent, data confidentiality, and institutional review were addressed to ensure participant welfare and research integrity.

With my engineering background, I developed this methodology to enable the data to present its own insights objectively. The quantitative approach removed personal bias that could have emerged in a qualitative study. What I could not remove and did not want to remove, was the awareness that behind every data point is a person who felt called to build something. That awareness shaped the care with which every number was verified and every finding was reported. Chapter 4 presents the results of the data collection and analysis, organized by research objective, followed by comparative analyses between first-generation and non-first-generation entrepreneurs and between generational cohorts.

CHAPTER 4

RESULTS

4.1 Introduction

This chapter presents the results of the quantitative analysis conducted to address the five research objectives outlined in Chapter 1. The findings emerge from analysis of 1,439 survey responses using the methodological approach detailed in Chapter 3. Each data point represents an individual who was inspired to create something, frequently lacking the guidance or resources that others may have received from their families. As a first-generation entrepreneur and an engineer by training, I approached this analysis with the objectivity the data demands. The findings that follow are what the data reveals, not what I hoped to find.

The chapter is organized as follows: Section 4.2 addresses response rate and data quality. Section 4.3 presents the demographic profile of participants. Section 4.4 reports reliability analysis of measurement scales. Sections 4.5 through 4.9 present findings organized by research objective, addressing psychological traits (4.5), socio-cultural factors (4.6), digital skills (4.7), mentorship and support (4.8), and the integrated framework (4.9). Section 4.10 reports comparative analyses between first-generation and non-first-generation entrepreneurs, as well as generational comparisons. Section 4.11 provides a summary of findings.

4.1.1 Specification of Dependent Variable

The primary dependent variable for this study is entrepreneurial satisfaction, measured through survey item Q38: “How satisfied are you with your entrepreneurial journey so far?” Responses were recorded on a 5-point Likert scale ranging from 1 (Very Dissatisfied) to 5 (Very Satisfied). This operationalization lines up with established measures of entrepreneurial success

that extend beyond purely financial metrics to encompass subjective well-being and perceived progress (Wach, Stephan and Gorgievski, 2016). Choosing satisfaction as the primary outcome variable reflects the multidimensional nature of success for first-generation entrepreneurs, whose meaningful achievements may be represented by persistence and continued engagement, separate from any financial outcomes. Of the 1,439 total respondents, 1,431 provided valid responses to this item, representing a completion rate of 99.4%.

4.1.2 Restatement of Research Questions and Objectives

The primary research question guiding this investigation is: What characteristics in particular psychological traits, digital competencies, and external support systems enable first-generation entrepreneurs to transition from entrepreneurial aspiration to action and persist through the critical early stages of their ventures in the digital age?

To address this central question, five specific research objectives were created, each corresponding to a distinct analytical focus within this chapter. Table 4.1 presents these objectives alongside their corresponding analytical sections.

Table 4.1 Research Objectives and Corresponding Analytical Sections

No.	Research Objective	Section
1	Analyze psychological traits and motivational drivers, including resilience, grit, emotional intelligence, and entrepreneurial passion, that enable first-generation entrepreneurs to overcome barriers and persist through challenges.	4.5

- | | | |
|---|---|-----|
| 2 | Understand socio-cultural and legitimacy-building factors, investigating how familial backgrounds, trust-based networks, and credibility-building strategies shape entrepreneurial behaviors. | 4.6 |
| 3 | Evaluate digital skills, literacy, and entrepreneurial ecosystems, assessing how digital competencies and ecosystem engagement influence entrepreneurial persistence. | 4.7 |
| 4 | Assess the role of mentorship, digital ecosystems, and community, evaluating the impact of mentorship programs, peer networks, and collaborative digital ecosystems on sustaining first-generation entrepreneurs. | 4.8 |
| 5 | Develop an interdisciplinary framework that evaluates the interaction between psychological traits, digital skills, and external support systems in driving entrepreneurial persistence. | 4.9 |
-

4.1.3 Description of Analytical Approach

The analytical approach employed in this study follows a systematic quantitative methodology designed to address each research objective fully. Data analysis was conducted using Python within the Google Colab environment, with statistical computations using the pandas library for data structuring and SciPy for inferential testing. All results were cross-verified against the raw dataset to ensure accuracy and reproducibility.

Descriptive Statistics. Descriptive analyses were conducted to summarize the demographic characteristics of respondents and the distributions of key variables. Measures of central

tendency (means) and dispersion (standard deviations) were calculated for all continuous variables, while frequencies and percentages were computed for categorical variables. These descriptive statistics provide essential context for interpreting subsequent inferential analyses.

Reliability Analysis. Internal consistency of measurement scales was assessed using Cronbach's alpha coefficients. Item-total correlations were examined to evaluate the contribution of individual items to overall scale reliability. Scales demonstrating alpha coefficients of 0.70 or above were considered to have good internal consistency (Hair et al., 2019), while coefficients between 0.60 and 0.70 were deemed acceptable for exploratory research purposes (Nunnally and Bernstein, 1994).

Correlation Analysis. Pearson correlation coefficients were computed to examine bivariate relationships between key variables. Correlation matrices were generated for each research objective to identify significant associations between psychological traits, digital skills, support systems, and entrepreneurial outcomes. Effect sizes were interpreted according to Cohen's (1988) conventions: $r = 0.10$ (small), $r = 0.30$ (medium), and $r = 0.50$ (large).

Multiple Regression Analysis. Ordinary least squares (OLS) regression was employed to examine the predictive relationships between independent variables and the dependent variable. Multiple regression models were constructed, allowing for the examination of unique variance explained by each predictor while controlling for other variables. Model fit was evaluated using R-squared and adjusted R-squared values, while statistical significance was assessed at the $p < 0.05$ level.

Comparative Analyses. Independent samples t-tests were employed to compare first-generation and non-first-generation entrepreneurs, as well as Generation Z and Millennial respondents, on

key study variables. Chi-square tests were used to examine differences in categorical variables between groups. Effect sizes (Cohen's d for t-tests, Cramér's V for chi-square) were calculated to assess the practical significance of observed differences.

4.2 Response Rate and Data Quality

This section reports the survey distribution methods, response rates, and data quality procedures employed to ensure the integrity of the analytical sample.

4.2.1 Survey Distribution and Collection

The survey was distributed through targeted advertising campaigns on Meta platforms (Facebook and Instagram), using Meta's Advantage+ detailed targeting to reach individuals aged 18–44 with demonstrated interest in entrepreneurship and business development. Campaigns were deployed across the United States, Canada, the United Kingdom, and Australia. A \$10 Visa Gift Card incentive was offered to participants upon survey completion.

The survey remained accessible on Typeform from May through early July 2025, during which 1,439 complete responses were received. The response pattern was heavily concentrated, with 93.7% of submissions arriving within the first three days of the campaign launch and 97.7% within the first week. Given the targeted nature of the distribution strategy, a traditional response rate calculation is not applicable; however, the final sample size of 1,439 respondents exceeds the minimum threshold of 800–1,200 established in the research proposal and provides sufficient statistical power for the planned analyses.

4.2.2 Final Sample Size and Completion Rates

The final analytical sample consists of 1,439 respondents who completed the survey questionnaire. Table 4.2 presents the sample size summary and completion statistics.

Table 4.2 Sample Size Summary

Metric	Value
Total Survey Responses	1,439
Complete Cases (Satisfaction)	1,431
Completion Rate	99.4%
First-Generation Entrepreneurs	749 (52.1%)
Non-First-Generation Entrepreneurs	682 (47.4%)
Missing First-Generation Status	8 (0.6%)

Note. First-generation status based on Q3: “While growing up, did you have a close family member you spent time with regularly that owned a business?” (No = First-Generation, n = 749; Yes = Non-First-Generation, n = 682).

The high completion rate of 99.4% for the primary dependent variable indicates strong respondent engagement with the survey instrument. The near-equal distribution between first-generation (52.1%) and non-first-generation (47.4%) entrepreneurs enables strong comparative analyses between these groups.

4.2.3 Data Screening and Preparation

Data screening procedures were implemented to ensure data quality and identify potential issues that could affect analytical validity. Missing data analysis revealed minimal missing values across key variables, with no variable exhibiting more than 2% missing data. Given the low rates of missingness, listwise deletion was employed for analyses requiring complete cases,

consistent with recommendations for datasets with less than 5% missing data (Schafer and Graham, 2002).

Outlier detection was conducted using standardized scores, with cases exhibiting z-scores exceeding ± 3.29 flagged for review. No cases were removed based on outlier analysis, as extreme scores appeared to represent genuine variation within the entrepreneurial population rather than data entry errors or invalid responses.

4.3 Demographic Profile of Participants

This section presents the demographic characteristics of survey respondents, providing essential context for interpreting study findings and assessing the generalizability of results to the broader population of first-generation entrepreneurs.

4.3.1 Generational Distribution

Table 4.3 presents the generational distribution of survey respondents. The sample is nearly evenly divided between Generation Z (50.0%) and Millennials (49.3%), with minimal representation from Generation X (0.6%) and Generation Alpha (0.1%).

Table 4.3 Generational Distribution of Respondents

Generation	Frequency	Percentage
Gen Z (1997-2012)	720	50.0%
Millennials (1981-1996)	709	49.3%
Gen X (1965-1980)	8	0.6%
Gen Alpha (2013-2025)	2	0.1%

Total	1,439	100.0%
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The strong representation of Generation Z respondents ($n = 720$) speaks directly to this study's focus on understanding the characteristics enabling younger entrepreneurs to transition from aspiration to action. The near-parity between Gen Z and Millennial respondents enables meaningful generational comparisons, which are presented in subsequent sections.

4.3.2 First-Generation Entrepreneur Status

First-generation entrepreneur status was determined by responses to Q3, which asked: "While growing up, did you have a close family member you spent time with regularly that owned a business?" Respondents who answered "No" were classified as first-generation entrepreneurs, while those who answered "Yes" were classified as non-first-generation entrepreneurs.

As shown in Table 4.2, first-generation entrepreneurs comprise 52.1% ($n = 749$) of the sample, while non-first-generation entrepreneurs comprise 47.4% ($n = 682$). This distribution provides a solid foundation for comparative analyses between these groups. The slight majority of first-generation entrepreneurs in the sample reflects the realities of the broader entrepreneurial population, where many individuals pursue business ownership without the benefit of familial business exposure.

4.3.3 Gender Distribution

Table 4.4 presents the gender distribution of survey respondents. The sample is predominantly male (64.0%), with female respondents comprising 35.2% of the sample.

Table 4.4 Gender Distribution of Respondents

Gender	Frequency	Percentage
Male	921	64.0%
Female	507	35.2%
Prefer not to say	3	0.2%
Missing	8	0.6%

The gender distribution in this sample reflects broader patterns observed in entrepreneurship research, where male entrepreneurs continue to outnumber female entrepreneurs, though the gender gap has been narrowing in recent years (Brush et al., 2019). The substantial representation of female respondents ($n = 507$) enables gender-based analyses where theoretically relevant.

4.3.4 Educational Attainment

Table 4.5 presents the educational attainment of survey respondents. The majority of respondents hold at least a bachelor's degree (44.2%), with additional respondents holding associate's degrees (23.3%) or having completed some college (18.1%). Respondents with master's degrees or higher comprise 8.4% of the sample, while those with a high school education or less represent 5.4%.

Table 4.5 Educational Attainment of Respondents

Education Level	Frequency	Percentage
Bachelor's degree	636	44.2%

Associate's degree	336	23.3%
Some college	261	18.1%
Master's degree or higher	121	8.4%
High school or less	77	5.4%

Note. Percentages based on valid responses ($n = 1,439$).

The educational profile of respondents indicates a relatively well-educated sample, with 75.9% having completed at least some college education. This finding is consistent with research indicating that educational attainment is positively associated with entrepreneurial activity, though it also raises considerations about the generalizability of findings to entrepreneurs with lower educational attainment.

4.3.5 Geographic Distribution

Table 4.6 presents the geographic distribution of survey respondents. The majority of respondents are located in the United States (73.6%), with additional representation from Canada (13.1%), Europe (6.7%), and other regions.

Table 4.6 Geographic Distribution of Respondents

Region	Frequency	Percentage
United States	1,059	73.6%
Canada	188	13.1%
Europe	97	6.7%

Other	47	3.3%
APAC - Asia Pacific	40	2.8%

The predominantly North American sample (86.7% from the United States and Canada combined) reflects the geographic targeting parameters of the Meta advertising campaigns, which prioritized English-speaking markets with established digital entrepreneurial ecosystems. While this geographic concentration may limit generalizability to other cultural contexts, it provides a focused examination of first-generation entrepreneurship within developed Western economies.

4.3.6 Employment Status

Table 4.7 presents the employment status of survey respondents. The majority of respondents identify as full-time entrepreneurs (58.9%), with an additional 16.2% identifying as part-time entrepreneurs. Combined, 75.1% of respondents are actively engaged in entrepreneurship as their primary or secondary occupation.

Table 4.7 Employment Status of Respondents

Employment Status	Frequency	Percentage
Full-time entrepreneur	843	58.9%
Part-time entrepreneur	232	16.2%
Employed full-time	203	14.2%
Employed part-time	75	5.2%
Student	57	4.0%

Unemployed	21	1.5%
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Note. 75.1% of respondents identify as entrepreneurs (full-time or part-time). Percentages based on the full sample (n = 1,439); location was not reported by 8 respondents.

The high proportion of respondents actively engaged in entrepreneurship (75.1%) confirms that the sample adequately represents the target population of practicing entrepreneurs. The presence of respondents who are employed (19.4% combined), students (4.0%), or unemployed (1.5%) while pursuing entrepreneurial activities reflects the diverse pathways through which individuals engage with entrepreneurship.

4.3.7 Business Venture Status

Table 4.8 presents the business venture status of survey respondents, indicating their current stage of entrepreneurial engagement.

Table 4.8 Business Venture Status of Respondents

Venture Status	Frequency	Percentage
Currently running a business	1,063	74.3%
In the process of starting	281	19.6%
Planning to start	80	5.6%
Not interested	7	0.5%

Note. 93.9% of respondents are actively engaged in entrepreneurship (running or starting a business).

The overwhelming majority of respondents (93.9%) are actively engaged in entrepreneurship, either currently running a business (74.3%) or in the process of starting one

(19.6%). This distribution indicates that the sample captures entrepreneurs at various stages of the venture creation process, enabling examination of factors that influence persistence across the entrepreneurial journey.

4.3.8 Identification of Target Population

The intersection of first-generation status and generational membership identifies the primary target population for this study: first-generation Generation Z entrepreneurs. Within the sample, 358 respondents (24.9%) meet both criteria: they are first-generation entrepreneurs (no family business exposure) and members of Generation Z (born 1997-2012).

This target population of 358 first-generation Gen Z entrepreneurs represents the core focus of this dissertation, though findings are contextualized through comparisons with non-first-generation entrepreneurs and Millennial respondents. The substantial size of this target population enables reliable statistical analyses while the comparison groups provide essential context for interpreting findings specific to first-generation Gen Z entrepreneurs.

These are people who, just as I did when I began my entrepreneurial journey in 2011, are creating businesses without the advantage of a family guide or inherited instructions. They did not experience a parent dealing with cash flow issues or discussing customer acquisition at home. They are writing the first chapter of their family's entrepreneurial story and understanding what enables their persistence is precisely what this research seeks to show.

4.4 Reliability Analysis

This section presents the reliability analysis for the measurement scales employed in this study. Internal consistency was assessed using Cronbach's alpha coefficients, with $\alpha \geq 0.70$

considered good reliability and $\alpha \geq 0.60$ considered acceptable for exploratory research with fewer items (Hair et al., 2019).

4.4.1 Psychological Traits Scale

The psychological traits scale comprised six items measuring grit (Q9), resilience (Q10), stress management (Q11), entrepreneurial identity (Q12), entrepreneurial passion (Q13), and self-efficacy (Q14). These items were designed to capture the multidimensional nature of psychological resources that enable entrepreneurs to persist through challenges and setbacks, consistent with theoretical frameworks developed by Salisu et al. (2020) and Newman et al. (2021).

The reliability analysis showed a Cronbach's alpha of 0.769, which is above the 0.70 threshold, demonstrating solid internal consistency. This coefficient suggests that the six items collectively provide a reliable measure of the psychological traits construct. Table 4.9 presents the reliability statistics for the psychological traits scale.

Table 4.9 Reliability Statistics for Psychological Traits Scale

Metric	Value
Number of Items	6
Cronbach's Alpha	$\alpha = 0.769$
Interpretation	Good Internal Consistency

Table 4.10 presents the corrected item-total correlations for each item in the psychological traits scale. All items showed meaningful contributions to the overall construct, with corrected item-total correlations ranging from 0.442 to 0.603.

Table 4.10 Item-Total Correlations for Psychological Traits Scale

Survey Item	r
Q9: I finish whatever I begin (Grit)	0.536
Q10: Setbacks don't discourage me (Resilience)	0.479
Q11: I can handle stressful situations (Stress Management)	0.442
Q12: Being an entrepreneur is important to who I am (Identity)	0.538
Q13: I spend time thinking about business ideas (Passion)	0.498
Q14: I am confident in my ability to succeed (Self-Efficacy)	0.603

Note. n = 1,341 (listwise deletion). All correlations are corrected item-total correlations.

What stands out is that self-efficacy (Q14) demonstrated the highest item-total correlation ($r = 0.603$), suggesting that confidence in one's ability to succeed sits at the core of the broader psychological traits construct. This finding supports Bandura's (1997) theoretical framework, which positions self-efficacy as a fundamental driver of persistence and goal-directed behavior. Stress management (Q11) exhibited the lowest correlation ($r = 0.442$), indicating that while stress management contributes to the overall construct, it may capture somewhat distinct aspects of psychological functioning. This pattern reinforces conceptualizations of resilience and stress management as related but distinguishable competencies within the broader domain of entrepreneurial psychological traits (Salisu et al., 2020).

4.4.2 Digital Skills Scale

The digital skills scale comprised three items measuring digital tool proficiency (Q16), digital tool importance (Q18), and social media effectiveness (Q24). These items were designed to capture the multidimensional nature of digital competency as conceptualized by Patriak (2023) and Sussan and Acs (2017), covering both technical proficiency and strategic utilization of digital resources.

The reliability analysis yielded a Cronbach's alpha coefficient of $\alpha = 0.724$, which exceeds the threshold of 0.70 and indicates good internal consistency. This coefficient suggests that the three items collectively provide a reliable measure of the digital skills construct relevant to entrepreneurial persistence. Table 4.11 presents the reliability statistics for the digital skills scale.

Table 4.11 Reliability Statistics for Digital Skills Scale

Metric	Value
Number of Items	3
Cronbach's Alpha	$\alpha = 0.724$
Interpretation	Good Internal Consistency

The acceptable reliability coefficient for the digital skills scale supports its use as a composite measure in subsequent analyses. The slightly lower alpha compared to the psychological traits scale (0.724 versus 0.769) is attributable to the smaller number of items, as Cronbach's alpha is sensitive to scale length (Tavakol and Dennick, 2011). Nevertheless, the

coefficient remains above the conventional threshold, confirming that the digital skills items indicate sufficient internal consistency for research purposes.

4.4.3 Support Systems Scale

The support systems scale comprised two items measuring mentorship importance (Q27) and peer network helpfulness (Q29). These items were designed to capture the external support dimensions identified as critical for first-generation entrepreneurial persistence (Xero, 2015; Colovic and Schruoffenegger, 2021).

Cronbach's alpha was 0.614. While this coefficient falls below the conventional threshold of 0.70, it remains within the range considered acceptable for exploratory research, particularly for scales with only two items (Nunnally and Bernstein, 1994). Table 4.12 presents the reliability statistics for the support systems scale.

Table 4.12 Reliability Statistics for Support Systems Scale

Metric	Value
Number of Items	2
Cronbach's Alpha	$\alpha = 0.614$
Interpretation	Acceptable for Exploratory Research

The moderate reliability coefficient for the support systems scale warrants careful interpretation. The lower alpha value is partially attributable to the scale comprising only two items, as Cronbach's alpha is mathematically constrained by scale length (Eisinga, Grotenhuis

and Pelzer, 2013). Additionally, the moderate correlation between mentorship importance and peer network helpfulness may reflect the conceptual distinction between formal mentorship structures and informal peer support mechanisms, both of which are theoretically relevant to entrepreneurial persistence but may operate through different channels.

Despite the lower reliability coefficient, the support systems scale was retained for analysis given its theoretical importance to the research objectives and the exploratory nature of this investigation. However, findings related to this scale should be interpreted with appropriate caution, and future research may benefit from expanding the scale to include additional items capturing diverse dimensions of external support.

4.4.4 Socio-Cultural Factors Scale

The socio-cultural factors scale comprised two items measuring trust and credibility importance (Q20) and cultural background influence (Q21). Cronbach's alpha was 0.338, indicating poor reliability.

This poor internal consistency suggests that these items measure distinct rather than unified constructs, trust and credibility; importance appears to capture marketplace legitimacy concerns, while cultural background influence reflects familial and social context. Following methodological guidance for scales with poor reliability (Hair et al., 2019), these items are analyzed both as a composite and individually in subsequent analyses, with appropriate interpretive caution applied to composite results.

Table 4.13 Reliability Statistics for Socio-Cultural Factors Scale

Metric	Value
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Number of Items	2
Cronbach's Alpha	$\alpha = 0.338$
Interpretation	Poor Internal Consistency*

*Note. *Items measure distinct constructs; analyzed individually and as composite with caution.*

4.4.5 Summary of Reliability Analysis

Table 4.14 presents a full summary of the reliability analysis for all measurement scales employed in this study. Overall, the scales confirmed acceptable internal consistency, supporting their use for examining the relationships between psychological traits, digital skills, support systems, and entrepreneurial persistence among first-generation entrepreneurs.

Table 4.14 Summary of Reliability Analysis for All Measurement Scales

Scale	Items	Cronbach's α	Interpretation
Psychological Traits	6	0.769	Good
Digital Skills	3	0.724	Good
Support Systems	2	0.614	Acceptable*
Socio-Cultural Factors	2	0.338	Poor**

*Note. *Acceptable for exploratory research with two-item scales. **Poor internal consistency; items analyzed individually and as composite with caution.*

Reliability analysis provides essential psychometric support for the measurement instruments employed in this study. The psychological traits scale indicated the strongest internal consistency ($\alpha = 0.769$), followed by the digital skills scale ($\alpha = 0.724$), both exceeding

conventional thresholds. The support systems scale exhibited moderate reliability ($\alpha = 0.614$), which remains acceptable given the exploratory nature of this research and the constraints associated with two-item scales. The socio-cultural factors scale exhibited poor reliability ($\alpha = 0.338$), necessitating individual item analysis alongside composite examination.

These findings align with the psychometric standards established by Salisu et al. (2020) for entrepreneurship research and support the methodological rigor of the present investigation. The acceptable reliability coefficients across the primary scales justify proceeding with inferential statistical analyses to address the research objectives and examine the relationships between psychological traits, digital skills, support systems, and entrepreneurial persistence among first-generation entrepreneurs.

4.5 Objective 1: Psychological Traits and Motivational Drivers

This section presents findings addressing Research Objective 1: To identify and examine key psychological traits, such as resilience, grit, emotional intelligence, and entrepreneurial passion, alongside motivational drivers that are essential for first-generation entrepreneurs to overcome barriers, persist through challenges, and transition from aspiration to action. The analysis examines six psychological trait variables: grit, resilience, stress management, entrepreneurial identity, entrepreneurial passion, and self-efficacy.

4.5.1 Descriptive Statistics for Psychological Traits

Six items assessed psychological traits central to entrepreneurial persistence. The internal consistency of this scale was good (Cronbach's $\alpha = 0.769$), supporting the reliability of the composite measure. Table 4.15 presents descriptive statistics for each psychological trait variable.

Table 4.15 Descriptive Statistics for Psychological Traits

Variable	n	M	SD	Skewness
Grit (Q9)	1,419	4.357	0.724	-1.182
Resilience (Q10)	1,413	4.159	0.907	-1.018
Stress Management (Q11)	1,419	4.047	0.902	-0.910
Entrepreneurial Identity (Q12)	1,405	4.252	0.848	-1.144
Entrepreneurial Passion (Q13)	1,408	4.258	0.805	-1.016
Self-Efficacy (Q14)	1,412	4.225	0.846	-1.135
Composite Score	1,430	4.210	0.596	

Note. All items measured on 5-point Likert scales (1 = Strongly Disagree, 5 = Strongly Agree). Negative skewness indicates distributions skewed toward higher scores.

Respondents reported consistently high levels across all psychological traits, with means ranging from 4.047 to 4.357. Grit recorded the highest mean ($M = 4.357$, $SD = 0.724$) and relatively low variability, indicating strong perseverance among the sample. Stress management, on the other hand, recorded the lowest mean ($M = 4.047$, $SD = 0.902$) still well above the scale midpoint, but with greater variability in how respondents handle pressure. That variability is consistent with research suggesting stress regulation develops differently across individuals (Aly, Audretsch and Grimm, 2021).

This observation resonated with my own experience. When I was struggling to make my first business work around 2011 and 2012 it was not talent or luck that kept me going. It was my capacity to manage the stress of ongoing uncertainty while continuing to take action.

Psychological resilience, especially when it comes to managing mental stress, has a lot to do

with perspective, focus, and the meaning we assign to what we are experiencing. Over time, I learned that my response to stressful situations could be managed through deliberate practice, consistent with the cognitive-behavioral approaches to stress regulation documented by Aly, Audretsch and Grimm (2021).

4.5.2 First-Generation vs. Non-First-Generation Comparison

Independent samples t-tests were conducted to compare psychological traits between first-generation and non-first-generation entrepreneurs. Table 4.16 presents the results of these comparisons.

Table 4.16 Psychological Traits: First-Generation vs. Non-First-Generation Comparison

Variable	FG (M)	Non-FG (M)	t	p	d
Grit	4.343	4.372	-0.75	.453	-0.04
Resilience	4.137	4.182	-0.92	.359	-0.05
Stress Mgmt.	4.065	4.027	0.79	.427	0.04
Identity	4.255	4.248	0.16	.872	0.01
Passion	4.269	4.246	0.53	.596	0.03
Self-Efficacy	4.251	4.197	1.20	.231	0.06
Composite	4.211	4.209	0.04	.966	0.00

Note. FG = First-Generation (n = 749). No significant differences at $p < .05$. Effect sizes (Cohen's d) are negligible.

The results reveal no significant differences in psychological traits between first-generation and non-first-generation entrepreneurs across any of the six trait variables. Effect sizes (Cohen's d) ranged from -0.05 to 0.06, indicating negligible practical differences. These

results suggest that first-generation entrepreneurs develop equivalent psychological resources despite lacking family business exposure.

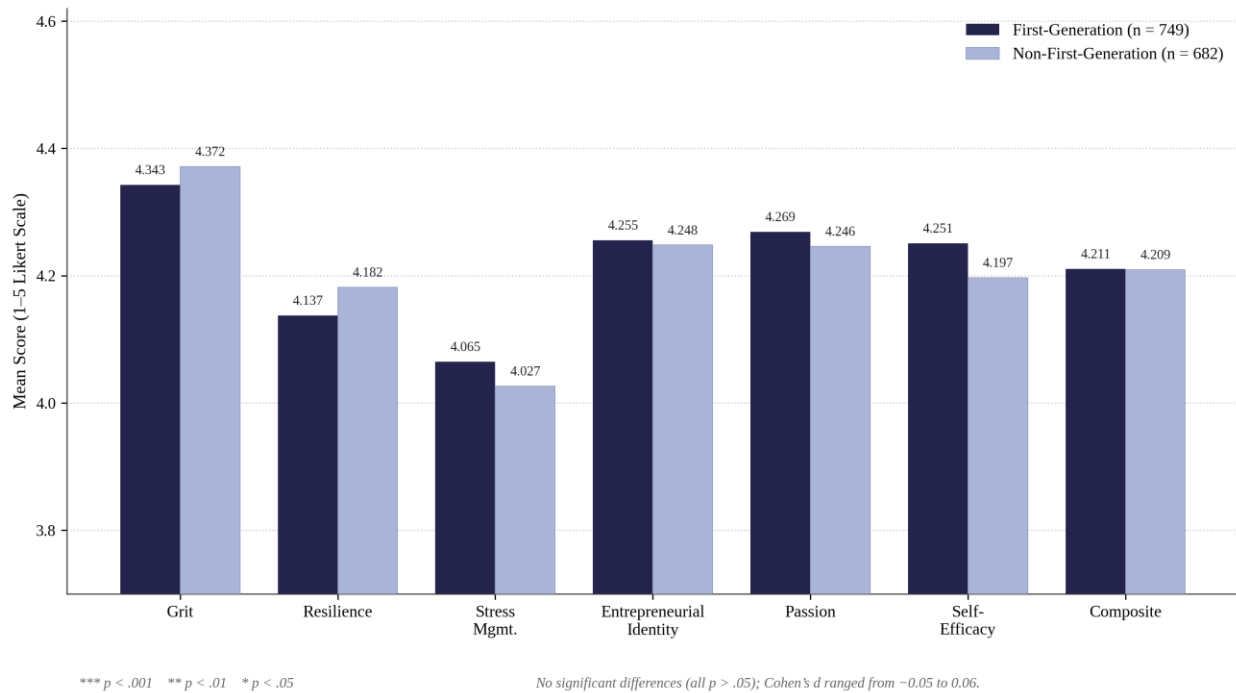


Figure 4.1. Psychological trait scores by entrepreneurial background. First-generation ($n = 749$) and non-first-generation ($n = 682$) entrepreneurs scored equivalently across all six psychological traits and the composite. No differences reached significance (all $p > .05$); effect sizes (Cohen's d) ranged from -0.05 to 0.06 . Source: Table 4.16.

This is a critical finding. The barriers facing first-generation entrepreneurs are not about who we are internally, but about what we lack externally networks, mentorship, and inherited knowledge. First-generation entrepreneurs show no behavioral-type deficits. We develop the same grit, resilience, and self-efficacy as those who grew up watching family members build businesses. The challenge is not psychological weakness; it is structural disadvantage.

4.5.3 Generational Comparison: Gen Z vs. Millennials

Significant generational differences emerged across all psychological traits, with Millennials consistently scoring higher than Gen Z entrepreneurs. Table 4.17 presents these comparisons.

Table 4.17 Psychological Traits: Gen Z vs. Millennials Comparison

Variable	Gen Z	Millennials	t	p	d
Grit	4.309	4.403	-2.47	.014*	-0.13
Resilience	4.100	4.215	-2.38	.017*	-0.13
Stress Mgmt.	3.962	4.129	-3.49	<.001***	-0.19
Identity	4.170	4.333	-3.63	<.001***	-0.19
Passion	4.197	4.319	-2.83	.005**	-0.15
Self-Efficacy	4.176	4.273	-2.15	.032*	-0.12
Composite	4.144	4.275	-4.16	<.001***	-0.22

Note. *** $p < .001$, ** $p < .01$, * $p < .05$. Gen Z $n = 720$, Millennials $n = 709$. Effect sizes are small but consistent.

Gen Z entrepreneurs scored significantly lower than Millennials across all psychological traits. The largest differences emerged for stress management ($d = -0.19$) and entrepreneurial identity ($d = -0.19$), both significant at $p < .001$. The composite psychological traits score showed a small but consistent effect ($d = -0.22$), indicating Millennials report higher overall psychological trait scores than Gen Z.

Table 4.18 presents the pairwise correlation matrix among the six psychological trait items and entrepreneurial satisfaction. All correlations were statistically significant at $p < .001$,

confirming the interrelatedness of these constructs. Self-efficacy and entrepreneurial identity showed the strongest inter-item correlation ($r = .503$), while the psychological traits composite demonstrated a strong positive association with entrepreneurial satisfaction ($r = .509$, $p < .001$).

Table 4.18 Correlation Matrix: Psychological Traits and Entrepreneurial Satisfaction

Variable	1	2	3	4	5	6	7
1. Grit							
2. Resilience	.354***						
3. Stress Mgmt.	.418***	.302***					
4. Identity	.395***	.382***	.290***				
5. Passion	.401***	.326***	.325***	.366***			
6. Self-Efficacy	.422***	.439***	.372***	.503***	.413***		
7. Satisfaction	.368***	.351***	.350***	.357***	.308***	.384***	

Note. *** $p < .001$. Pairwise deletion; $n = 1,383$ – $1,419$ per pair. Composite correlation with satisfaction: $r = .509$, $p < .001$ ($n = 1,430$).

This generational difference matters, but it should be interpreted carefully. Gen Z grew up online, with social media and technology as a normal part of life. Their lower psychological trait scores do not necessarily mean they will be less successful entrepreneurs. As I discuss later, digital proficiency may serve as a form of ‘Grit Subsidy’ allowing younger founders to achieve similar outcomes with different resource configurations. The path to entrepreneurial success is not singular; there are multiple pathways that combine skill sets, psychological traits, and desire in different proportions.

4.5.4 Item-Level Analysis

Item-total correlations for the psychological traits scale were presented in Table 4.10 (Section 4.4.1). As noted in that analysis, self-efficacy (Q14) exhibited the strongest association with the overall construct ($r = 0.603$), while stress management (Q11) showed the lowest ($r = 0.442$). These patterns are consistent with the regression findings presented in Section 4.9.2, where psychological traits emerged as the strongest predictor of entrepreneurial satisfaction.

4.5.5 Summary of Psychological Traits Findings

The analysis of psychological traits reveals several key findings. First, respondents scored consistently high levels across all psychological traits, with composite means above 4.0 on a 5-point scale. Second, no significant differences emerged between first-generation and non-first-generation entrepreneurs, suggesting first-generation entrepreneurs develop equivalent psychological resources despite lacking family business exposure. Third, Gen Z entrepreneurs scored significantly lower than Millennials across all traits, with small but consistent effect sizes. Fourth, self-efficacy emerged as the most central item to the psychological traits construct.

4.6 Objective 2: Socio-Cultural Influences and Legitimacy-Building

This section presents findings addressing Research Objective 2: To understand socio-cultural and legitimacy-building factors, investigating how familial backgrounds, trust-based networks, and credibility-building strategies shape entrepreneurial behaviors among first-generation entrepreneurs.

4.6.1 Descriptive Statistics for Socio-Cultural Variables

Two primary items assessed socio-cultural factors: the importance of trust and credibility (Q20) and cultural background influence (Q21). Due to low internal consistency between these items ($\alpha = 0.338$), they are analyzed both as a composite and individually. Table 4.19 presents descriptive statistics.

Table 4.19 Descriptive Statistics for Socio-Cultural Variables

Variable	n	M	SD	Skewness
Trust/Credibility Importance (Q20)	1,419	4.398	0.729	-1.277
Cultural Background Influence (Q21)	1,416	4.092	0.932	-1.142
Composite Score	1,431	4.242	0.661	

Note. The low alpha (0.338) indicates the two items measure distinct constructs. Items are analyzed both as composite and individually.

Trust and credibility importance recorded the highest mean ($M = 4.398$, $SD = 0.729$), with the vast majority of respondents agreeing that trust-building is essential for entrepreneurial success. This confirms the centrality of legitimacy for first-generation entrepreneurs lacking inherited reputational capital (Karlsson and Williams-Middleton, 2015). Cultural background influence was also positively rated ($M = 4.092$, $SD = 0.932$), though with greater variability.

4.6.2 Critical Finding: Cultural Background Influence Gap

A highly significant difference emerged in cultural background influence between first-generation and non-first-generation entrepreneurs. Table 4.20 presents this critical finding.

Table 4.20 Cultural Background Influence: First-Generation vs. Non-First-Generation

Variable	FG (M)	Non-FG (M)	t	p	d
Cultural Background Influence	4.003	4.189	-3.78	<.001***	-0.20

Note. *** $p < .001$. FG = First-Generation ($n = 749$), Non-FG = Non-First-Generation ($n = 682$).

First-generation entrepreneurs ($M = 4.003$) perceived significantly less positive influence from their cultural background than non-first-generation entrepreneurs ($M = 4.189$), $t = -3.78$, $p < .001$, $d = -0.20$. This data confirms the inherited advantage that comes from growing up in an entrepreneurial family environment.

This evidence quantifies something I experienced firsthand. Growing up, I did not know the word ‘entrepreneur.’ Through elementary school, middle school, and high school, I was never exposed to entrepreneurship in any form. No one in my family owned a business. No one I spent time with growing up was a business owner. The world of entrepreneurship and business was completely foreign to me. Those who grow up in entrepreneurial families absorb business knowledge at family gatherings and dinner tables knowledge that first-generation entrepreneurs must acquire from scratch, often without even knowing what we do not know.

4.6.3 Network Challenges Analysis

An unexpected finding emerged regarding network-building challenges. Non-first-generation entrepreneurs reported more challenges in building professional networks (83.2%) than first-generation entrepreneurs (76.6%). This counterintuitive finding may reflect higher expectations among those from entrepreneurial families regarding network quality or density, or

indicate that first-generation entrepreneurs have adapted alternative network-building strategies. This is an interesting discovery that could open it up for additional research. More practically, it reinforces the structural disadvantage first-generation entrepreneurs face when starting their entrepreneurial journey. It could also indicate that non-first-generation entrepreneurs have higher innate expectations for network quality because they grew up with family networks as a reference point.

4.6.4 Summary of Socio-Cultural Findings

The analysis of socio-cultural factors reveals that trust and credibility are rated as highly important by respondents across both groups. However, a significant gap exists in perceived cultural background influence, with first-generation entrepreneurs reporting less positive influence from their cultural backgrounds. This confirms that growing up in an entrepreneurial family provides inherited advantages in cultural capital that first-generation entrepreneurs must develop through alternative means.

4.7 Objective 3: Digital Skills, Literacy, and Entrepreneurial Ecosystems

This section presents findings addressing Research Objective 3: To evaluate digital skills, literacy, and entrepreneurial ecosystems, assessing how digital competencies and ecosystem engagement influence entrepreneurial persistence among first-generation entrepreneurs in the digital age.

4.7.1 Descriptive Statistics for Digital Skills

Digital skills and ecosystem engagement were assessed through items measuring digital proficiency (Q16), digital importance (Q18), and social media effectiveness (Q24). The internal

consistency of this scale was good (Cronbach's $\alpha = 0.724$). Table 4.21 presents descriptive statistics.

Table 4.21 Descriptive Statistics for Digital Skills Variables

Variable	n	M	SD	Skewness
Digital Proficiency (Q16)	1,417	4.335	0.720	-1.133
Digital Importance (Q18)	1,413	4.372	0.725	-1.213
Social Media Effectiveness (Q24)	1,408	4.287	0.753	-1.157
Composite Score	1,431	4.329	0.597	

Note. Cronbach's $\alpha = 0.724$.

Digital importance recorded the highest mean ($M = 4.372$, $SD = 0.725$), indicating strong recognition of digital tools' essential role in entrepreneurial success. Digital proficiency was also high ($M = 4.335$, $SD = 0.720$), suggesting respondents feel confident in their digital capabilities.

4.7.2 Digital Tool Usage Frequency

Table 4.22 presents the frequency of digital tool usage among respondents.

Table 4.22 Digital Tool Usage Frequency

Usage Frequency	Frequency	Percentage
Often	731	51.5%
Sometimes	329	23.2%

Daily	307	21.6%
Rarely	45	3.2%
Never	8	0.6%

Note. 96.3% of respondents use digital tools at least sometimes for their business.

Digital tool usage is nearly universal among respondents, with 96.3% using digital tools at least sometimes for their business operations. The majority (51.5%) use tools often, with an additional 21.6% reporting daily usage. This distribution confirms the pervasive integration of digital tools in contemporary entrepreneurship.

4.7.3 First-Generation Comparison for Digital Skills

Comparisons between first-generation and non-first-generation entrepreneurs revealed largely equivalent digital skills, with one exception. Only social media effectiveness showed a significant difference between groups, with non-first-generation entrepreneurs reporting slightly higher effectiveness ($M = 4.330$) than first-generation entrepreneurs ($M = 4.248$), $t = -2.03$, $p = .043$, $d = -0.11$. The effect size is small, and no significant differences emerged for digital proficiency or perceived importance of digital tools. Table 4.23 presents these findings.

Table 4.23 Digital Skills: First-Generation vs. Non-First-Generation Comparison

Variable	FG (M)	NFG (M)	t	p	d
Digital Proficiency	4.354	4.313	1.09	.274	0.06
Digital Importance	4.362	4.384	-0.56	.577	-0.03
Social Media Effect.	4.248	4.330	-2.03	.043*	-0.11

Composite	4.317	4.343	-0.82	.411	-0.04
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*Note. *p < .05. FG = First-Generation (n = 749), NFG = Non-First-Generation (n = 682). Only social media effectiveness reached statistical significance. Effect sizes (Cohen's d) are negligible to small.*

4.7.4 Digital Skills as Indirect Catalysts

An important interpretation emerges from these findings. Digital skills, while nearly universal and highly valued, do not appear to directly differentiate first-generation from non-first-generation entrepreneurs. This suggests that digital competencies may operate indirectly through their effects on confidence, self-efficacy, and network access rather than as direct drivers of entrepreneurial outcomes.

This is consistent with what I have observed in my own journey and in working with entrepreneurs. Developing digital skills may not directly predict whether someone will persist or succeed as an entrepreneur, but when you build those skills, your confidence increases. Your self-efficacy increases. You start seeing your skills as transferable. You realize you might be able to help another business or person with them. As you develop these skills, opportunities start opening up. Digital skills are a catalyst for self-efficacy, and self-efficacy is what drives action.

4.7.5 Summary of Digital Skills Findings

The analysis of digital skills uncovers a wide adoption of digital tools among respondents (96.3%), with high proficiency and importance ratings across both groups. First-generation and non-first-generation entrepreneurs show largely equivalent digital capabilities, with only social media effectiveness showing a small significant difference. These findings suggest that digital

skills serve as an equalizing factor: first-generation entrepreneurs are not disadvantaged in their digital competencies despite lacking inherited business knowledge.

4.8 Objective 4: Mentorship, Peer Networks, and Community Support

This section presents findings addressing Research Objective 4: To assess the role of mentorship, digital ecosystems, and community, evaluating the impact of mentorship programs, peer networks, and collaborative digital ecosystems on sustaining first-generation entrepreneurs through the critical early stages of their ventures.

4.8.1 Descriptive Statistics for Support Systems

Support systems were assessed through items measuring mentorship importance (Q27) and peer network helpfulness (Q29). The internal consistency of this scale was acceptable for exploratory research (Cronbach's $\alpha = 0.614$). Table 4.24 presents descriptive statistics.

Table 4.24 Descriptive Statistics for Mentorship and Support Variables

Variable	n	M	SD	Skewness
Mentorship Importance (Q27)	1,409	4.185	0.928	-1.320
Peer Network Helpfulness (Q29)	1,414	4.204	0.807	-1.123
Composite Score	1,430	4.190	0.750	

Note. Cronbach's $\alpha = 0.614$ (acceptable for exploratory research).

Both mentorship importance ($M = 4.185$, $SD = 0.928$) and peer network helpfulness ($M = 4.204$, $SD = 0.807$) recorded high means, indicating respondents recognize the value of support systems for entrepreneurial success.

4.8.2 Critical Finding: The Mentorship Gap

Chi-square analysis revealed a significant difference in mentorship receipt between first-generation and non-first-generation entrepreneurs. Table 4.25 presents this critical finding.

Table 4.25 Mentorship Receipt: First-Generation vs. Non-First-Generation

Group	Received	Total	%
First-Generation	557	749	74.4%
Non-First-Generation	569	677	84.0%
Gap			9.7 pp

Note. $\chi^2 = 19.49$, $df = 1$, $p < .001$, Cramér's $V = 0.117$. *pp* = percentage points.

Note 2. Non-first-generation $n = 677$ (not 682) due to 5 missing responses on the mentorship receipt item (Q25).

A 9.7 percentage point mentorship gap exists between first-generation (74.4%) and non-first-generation (84.0%) entrepreneurs in receiving mentorship, $\chi^2 = 19.49$, $p < .001$. This gap is statistically significant and represents a meaningful structural disadvantage for first-generation entrepreneurs.

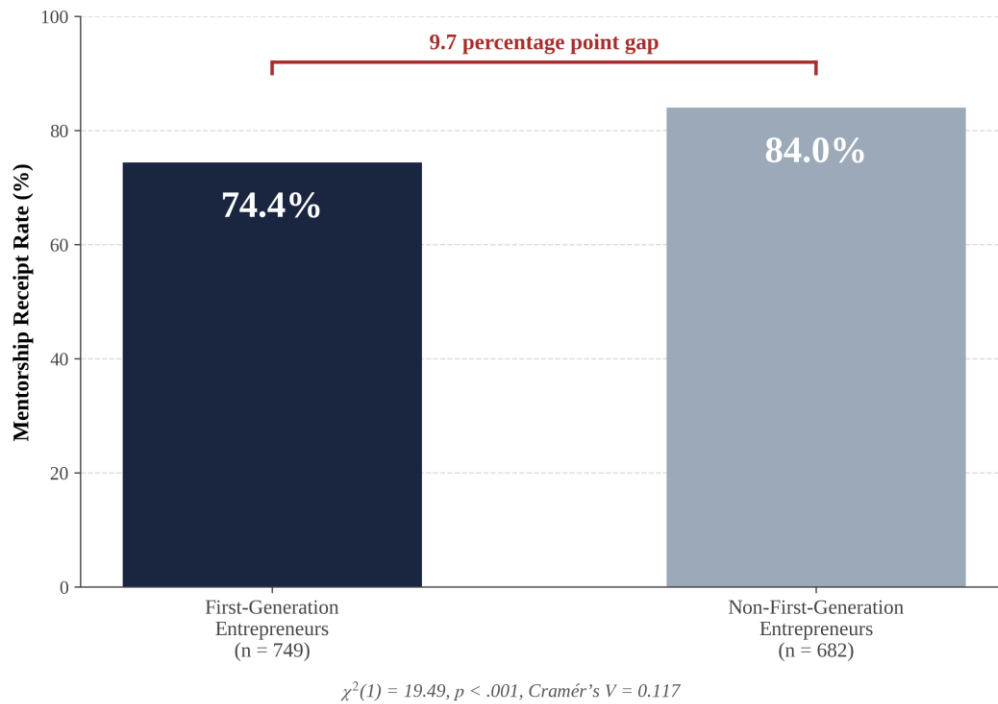


Figure 4.2. Mentorship receipt rates by entrepreneurial background. First-generation entrepreneurs (74.4%) received mentorship at significantly lower rates than non-first-generation entrepreneurs (84.0%), $\chi^2(1) = 19.49, p < .001$, Cramér's $V = 0.117$. The 9.7 percentage point gap represents a systematic structural disadvantage.

What this data points to is one of the most significant findings in my research. Growing up, I did not have mentors — at least not direct ones I could talk to or build relationships with. When I started my entrepreneurial journey in my early 20s, my mentors were books, YouTube videos, conferences, and speakers I listened to from a distance, people I never got to talk to or learn from personally. There was no successful entrepreneur or business owner who took me under their wing and showed me the ropes. You might get 30 seconds with a speaker at a conference — what do you even ask in that moment? If you are reading a book written by someone with incredible experience, how do you ask a follow-up question? How do you build a relationship? You do not. At least, that was my experience.

4.8.3 Mentorship Type Distribution

Table 4.26 presents the distribution of mentorship types among respondents.

Table 4.26 Mentorship Type Distribution

Mentorship Type	Frequency	Percentage
Both formal and informal	569	40.4%
Formal only	323	22.9%
Informal only	311	22.1%
Not applicable	207	14.7%

The majority of respondents (40.4%) received both formal and informal mentorship, indicating entrepreneurs seek guidance from multiple sources. Formal mentorship (22.9%) and informal mentorship (22.1%) were equally common among those receiving only one type.

4.8.4 Mentorship Importance Gap

In addition to the gap in mentorship receipt, a significant gap emerged in perceived mentorship importance. First-generation entrepreneurs rated mentorship importance significantly lower ($M = 4.104$) than non-first-generation entrepreneurs ($M = 4.272$), $t = -3.42$, $p < .001$, $d = -0.18$. This paradox, needing mentorship more but rating it as less important, may reflect an adaptive response to limited access. When someone grows up without guidance, self-reliance becomes the default setting. The implications of this pattern are discussed in Section 5.3.5.

4.8.5 Implications for First-Generation Entrepreneur Support

The mentorship gap identified in this analysis represents a structural barrier requiring intentional intervention. The 9.7 percentage point gap in mentorship access, combined with the

paradox of lower perceived importance, suggests that support programs must be proactive in connecting first-generation entrepreneurs with mentors rather than waiting for them to seek mentorship on their own. The survey evidence carries particular weight for me. Looking back at my own early years as an entrepreneur, I know I undervalued mentorship not because it was unimportant, but because I did not know what I was missing. The extended personal reflection on this finding appears in Section 5.3.5.

4.8.6 Summary of Mentorship and Support Findings

The analysis of mentorship and support systems reveals several critical findings. A significant 9.7 percentage point mentorship gap exists between first-generation (74.4%) and non-first-generation (84.0%) entrepreneurs. First-generation entrepreneurs also rate mentorship importance significantly lower than their non-first-generation counterparts. The combination of reduced access and lower perceived value creates a compounding disadvantage that support programs must actively address. Despite these gaps, both groups recognize the value of peer networks, suggesting that peer-based support may offer a more accessible alternative to traditional mentorship for first-generation entrepreneurs.

4.9 Objective 5: Integrated Framework Analysis

This section presents findings addressing Research Objective 5: To develop an interdisciplinary framework that evaluates the interaction between psychological traits, digital skills, and external support systems in driving entrepreneurial persistence among first-generation entrepreneurs. This analysis represents the culmination of the preceding sections, integrating findings from Objectives 1 through 4 into a unified predictive model.

4.9.1 Correlation Analysis

Before proceeding to regression analysis, bivariate correlations were examined among all construct composites and the dependent variable. Table 4.27 presents the correlation matrix for the four construct composites and entrepreneurial satisfaction.

Table 4.27 Correlation Matrix: Construct Composites and Entrepreneurial Satisfaction

Variable	1	2	3	4	5
1. Psychological Traits					
2. Digital Skills	.645***				
3. Socio-Cultural	.607***	.602***			
4. Support Systems	.549***	.562***	.528***		
5. Satisfaction	.509***	.402***	.400***	.454***	

Note. *** $p < .001$. $n = 1,429-1,431$.

All construct composites yielded significant positive correlations with entrepreneurial satisfaction, supporting the theoretical framework's assertion that these factors collectively influence entrepreneurial outcomes. Psychological traits exhibited the strongest bivariate correlation with satisfaction ($r = .509$, $p < .001$), followed by support systems ($r = .454$, $p < .001$), digital skills ($r = .402$, $p < .001$), and socio-cultural factors ($r = .400$, $p < .001$).

The intercorrelations among predictor variables ranged from .528 to .645, indicating moderate to strong relationships. The strongest correlation emerged between psychological traits and digital skills ($r = .645$), suggesting that entrepreneurs with stronger psychological resources also tend to establish higher digital proficiency. This trend is consistent with my earlier

observation that digital skills may function as a psychological enabler, building the confidence that translates into persistence.

4.9.2 Multiple Regression Analysis

A multiple regression analysis was conducted with entrepreneurial satisfaction as the dependent variable and the four construct composites as predictors. The model explains 30.5% of the variance in entrepreneurial satisfaction ($R^2 = 0.305$, Adjusted $R^2 = 0.303$), $F(4, 1424) = 156.46$, $p < .001$. Table 4.28 presents the regression coefficients.

Table 4.28 Multiple Regression Results Predicting Entrepreneurial Satisfaction

Predictor	B	SE	β	t	p
(Constant)	0.473	0.156		3.03	.003
Psychological Traits	0.481	0.046	0.329	10.39	<.001***
Digital Skills	0.031	0.046	0.022	0.68	.499
Socio-Cultural	0.089	0.040	0.068	2.24	.025*
Support Systems	0.261	0.033	0.225	7.89	<.001***

Note. *** $p < .001$, * $p < .05$. DV = Entrepreneurial Satisfaction. $n = 1,429$. $R^2 = 0.305$, Adjusted $R^2 = 0.303$.

Psychological traits emerged as the strongest predictor of entrepreneurial satisfaction ($\beta = 0.329$, $p < .001$), followed by support systems ($\beta = 0.225$, $p < .001$). Socio-cultural factors produced a modest but statistically significant effect ($\beta = 0.068$, $p = .025$). What stands out here is that digital skills did not contribute significant unique variance when controlling for other factors ($\beta = 0.022$, $p = .499$).

This discovery is one of the most important in my research, and it initially surprised me. Digital skills correlate significantly with satisfaction at the bivariate level ($r = .402$), yet they contribute virtually nothing unique when psychological traits and support systems are in the model. What this tells me is that digital skills operate indirectly. They are not a direct driver of entrepreneurial satisfaction. Instead, they function as supporting infrastructure — the medium through which entrepreneurs access support, build legitimacy, and develop the psychological confidence that actually predicts persistence.

4.9.3 Multicollinearity Assessment

Variance inflation factors (VIF) were examined to assess potential multicollinearity among predictor variables. Table 4.29 presents the VIF values for each predictor.

Table 4.29 Variance Inflation Factors

Predictor	VIF
Psychological Traits	2.06
Digital Skills	2.08
Socio-Cultural	1.88
Support Systems	1.67

Note. All VIF values < 5.0, confirming no problematic multicollinearity.

All VIF values fell well below the conventional threshold of 5.0, with values ranging from 1.67 to 2.08. This indicates that multicollinearity does not pose a threat to the validity of the

regression coefficients, and the unique contributions of each predictor can be interpreted with confidence.

4.9.4 Unique Variance Contributions

To understand the relative importance of each predictor, unique variance contributions were calculated by examining the change in R^2 when each variable is added to the model after controlling for all other predictors. Table 4.30 presents these unique variance contributions.

Table 4.30 Unique Variance Contributions by Predictor

Predictor	ΔR^2
Psychological Traits	0.053 (5.27%)
Support Systems	0.030 (3.04%)
Socio-Cultural	0.002 (0.24%)
Digital Skills	0.000 (0.02%)

Note. ΔR^2 = unique variance contribution when controlling for all other predictors.

Psychological traits contribute the largest unique variance (5.27%), followed by support systems (3.04%). Together, these two factors account for approximately 8.3% of unique variance representing the vast majority of the model's explanatory power. Socio-cultural factors contribute modestly (0.24%), while digital skills contribute negligible unique variance (0.02%).

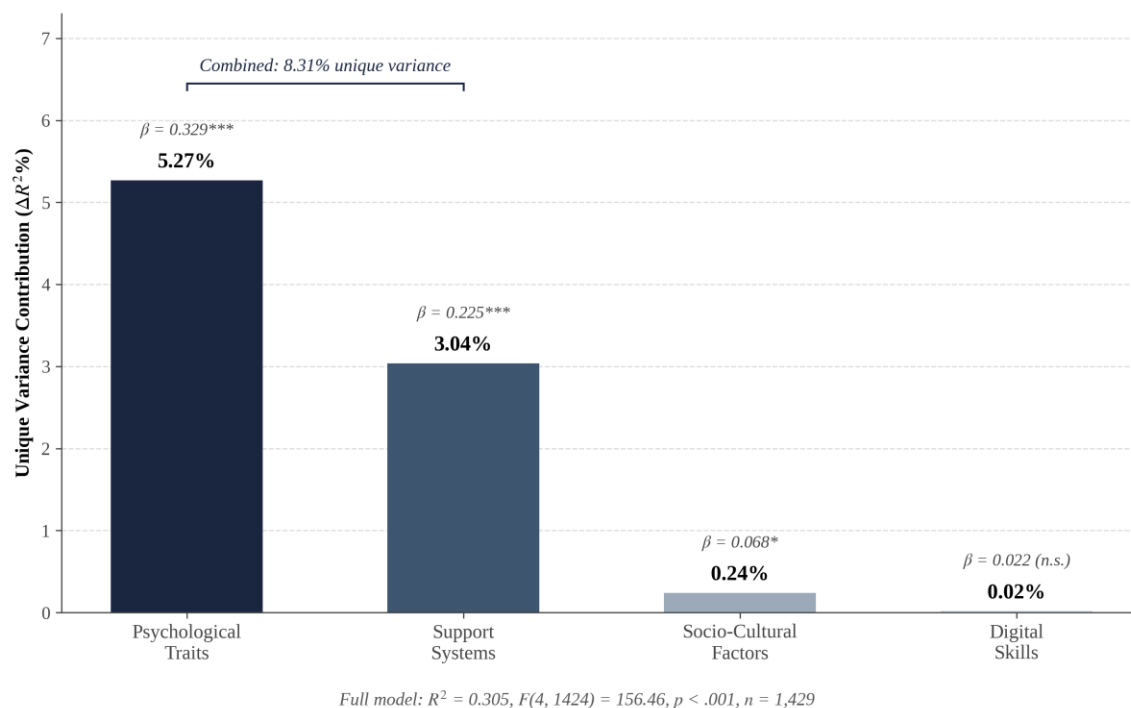


Figure 4.3. Unique variance contributions (ΔR^2) by predictor domain in the integrated regression model predicting entrepreneurial satisfaction. Psychological traits and support systems together account for 8.31% of unique variance, representing the vast majority of the model's explanatory power. Digital skills contribute negligible unique variance (0.02%), suggesting their influence operates indirectly.

This hierarchy has profound implications. It tells us that when we want to help first-generation entrepreneurs succeed, we should prioritize developing their psychological resources — grit, self-efficacy, stress management — and ensuring they have access to mentorship and peer networks. Digital skills matter, but not in the way many assume. They are the infrastructure that enables everything else, not the engine that drives it.

4.9.5 Interpretation of the Integrated Framework

The integrated framework analysis reveals a clear hierarchy of influence on entrepreneurial satisfaction. Psychological traits stand at the apex, contributing the strongest direct effect. What the numbers reveal is what I have experienced and observed over fifteen

years of entrepreneurship: the internal resources — belief, resilience, the capacity to manage stress and persist through difficulty — are the strongest predictors of whether someone stays in the game long enough to succeed.

Support systems occupy the second tier, demonstrating that external scaffolding matters significantly. A mentor who has been there, a peer network that normalizes the struggle, a community that provides accountability — these are not luxuries. They are structural advantages that, as Section 4.8 revealed, first-generation entrepreneurs are significantly less likely to access.

The finding that digital skills do not contribute unique variance is counterintuitive in an age where technology is often positioned as the great equalizer. But the data is clear: digital competence is necessary but not sufficient. Nearly everyone in the sample (96.3%) uses digital tools. The difference between those who are satisfied with their entrepreneurial progress and those who are not lies elsewhere in their psychological makeup and in the support systems surrounding them.

4.9.6 Summary of Integrated Framework Findings

The integrated framework analysis demonstrates that the model explains 30.5% of variance in entrepreneurial satisfaction. Psychological traits emerge as the strongest predictor ($\beta = 0.329$), contributing 5.27% unique variance. Support systems represent the second most important predictor ($\beta = 0.225$), contributing 3.04% unique variance. Socio-cultural factors show a modest but significant effect ($\beta = 0.068$), while digital skills do not contribute significant unique variance when other factors are controlled, suggesting their influence operates indirectly through psychological and support mechanisms. A focal analysis isolating first-generation

entrepreneurs, for whom the model's explanatory power increases substantially, is presented in Section 4.10.4.

4.10 Comparative Analyses

This section consolidates the comparative findings between first-generation and non-first-generation entrepreneurs, as well as between Generation Z and Millennial entrepreneurs. These comparisons provide essential context for understanding the unique challenges and characteristics of the target population.

4.10.1 First-Generation vs. Non-First-Generation: Consolidated Comparison

Table 4.31 presents a consolidated comparison of first-generation and non-first-generation entrepreneurs across all major study variables.

Table 4.31 Consolidated Comparison: First-Generation versus Non-First-Generation Entrepreneurs

Variable	FG (M)	Non-FG (M)	t	p	d
Psychological Traits (Composite)	4.211	4.209	0.04	.966	0.00
Digital Skills (Composite)	4.317	4.343	-0.82	.411	-0.04
Social Media Effectiveness	4.248	4.330	-2.03	.043*	-0.11
Cultural Background Influence	4.003	4.189	-3.78	<.001***	-0.20

Mentorship Importance	4.104	4.272	-3.42	<.001***	-0.18
Entrepreneurial Satisfaction	4.052	4.164	-2.44	.015*	-0.13

Note. FG = First-Generation ($n = 749$). *** $p < .001$, * $p < .05$. Mentorship receipt: FG = 74.4%, Non-FG = 84.0% ($\chi^2 = 19.49$, $p < .001$).

The central finding from this comparison is clear: first-generation entrepreneurs demonstrate equivalent psychological resources to their non-first-generation counterparts. They are not starting with psychological disadvantages. However, significant gaps emerge in two critical areas: cultural background influence and mentorship. First-generation entrepreneurs perceive less positive influence from their cultural background ($d = -0.20$) and rate mentorship as less important ($d = -0.18$), despite having significantly lower access to mentorship (74.4% vs. 84.0%).

This recurring theme confirms what I suspected before the data made it undeniable: first-generation entrepreneurs carry no psychological deficit into the arena. We develop comparable grit, resilience, and self-efficacy. What separates us is the absence of the scaffolding; the mentors, the networks, the cultural shorthand that others absorb without effort. We are writing the first chapter of our family's entrepreneurial story without a template to follow.

4.10.2 Generational Comparison: Gen Z vs. Millennials

Table 4.32 presents a consolidated comparison between Generation Z and Millennial entrepreneurs across all major study variables.

Table 4.32 Consolidated Comparison: Gen Z vs. Millennial Entrepreneurs

Variable	Gen Z (M)	Mill. (M)	t	p	d
Psychological Traits (Composite)	4.144	4.275	-4.16	<.001***	-0.22
Grit	4.309	4.403	-2.47	.014*	-0.13
Stress Management	3.962	4.129	-3.49	<.001***	-0.19
Entrepreneurial Identity	4.170	4.333	-3.63	<.001***	-0.19
Self-Efficacy	4.176	4.273	-2.15	.032*	-0.12
Digital Tool Proficiency	4.300	4.369	-1.81	.070	-0.10

Note. *** $p < .001$, * $p < .05$. Gen Z $n = 720$, Millennials $n = 709$. Effect sizes are small but consistent across psychological traits.

Significant generational differences emerged across all psychological traits, with Millennials consistently scoring higher than Gen Z entrepreneurs. The largest differences appeared for stress management ($d = -0.19$) and entrepreneurial identity ($d = -0.19$). Importantly, no significant difference emerged for digital tool proficiency, indicating equivalent technical competence across generations.

These generational differences warrant careful interpretation. Gen Z grew up with social media and digital technology as a normal part of life. Their lower psychological trait scores do not necessarily predict lower entrepreneurial success. I suspect that digital proficiency may serve as what I call a Grit Subsidy, allowing younger founders to achieve similar outcomes with different resource configurations. The path to entrepreneurial success is not singular. There are

multiple pathways that combine skill sets, psychological traits, and desire in different proportions.

4.10.3 Target Population Profile: First-Generation Gen Z Entrepreneurs

The intersection of first-generation status and Generation Z membership identifies 358 respondents (24.9% of the sample) who represent the primary target population for this research. This group faces a unique combination of challenges: they lack inherited business knowledge and networks while simultaneously reporting lower psychological trait scores than their Millennial counterparts.

That said, this group also possesses distinct advantages. They confirm equivalent digital proficiency to all other groups, and they are entering entrepreneurship at a time when digital tools have dramatically lowered barriers to starting a business. The question is whether their digital capabilities can compensate for gaps in psychological resources and support systems, a question that future longitudinal research should address.

4.10.4 Subgroup Regression Models: First-Generation and Non-First-Generation Entrepreneurs

The pooled regression in Section 4.9 established the integrated model across the full sample. Because this study centers on first-generation entrepreneurs, I re-estimated the same four-predictor model separately for each group, using identical variable construction, the same listwise-deletion procedure, and entrepreneurial satisfaction as the dependent variable.

When the model is focused on first-generation entrepreneurs alone, its explanatory power increases substantially. The R-squared — the share of the differences in entrepreneurial satisfaction that the four factors together account for — rises to 0.393 for first-generation

entrepreneurs, compared with 0.198 for non-first-generation entrepreneurs and 0.305 for the pooled sample. In other words, the integrated model explains roughly twice as much of what drives satisfaction among the population the framework was built to serve. Table 4.33 reports the first-generation model and Table 4.34 the non-first-generation model.

Table 4.33 Multiple Regression Results Predicting Entrepreneurial Satisfaction — First-Generation Entrepreneurs

Predictor	B	SE	β	t	p
(Constant)	0.163	0.195		0.84	.403
Psychological Traits	0.604	0.060	0.424	10.13	<.001***
Digital Skills	−0.022	0.060	−0.016	−0.38	.707
Socio-Cultural	0.072	0.050	0.057	1.42	.156
Support Systems	0.277	0.042	0.244	6.53	<.001***

Note. *** $p < .001$. $DV = \text{Entrepreneurial Satisfaction}$. $n = 747$. $R^2 = 0.393$, *Adjusted* $R^2 = 0.390$, $F(4, 742) = 120.20$, $p < .001$. All VIF values 1.71–2.15.

Table 4.34 Multiple Regression Results Predicting Entrepreneurial Satisfaction — Non-First-Generation Entrepreneurs

Predictor	B	SE	β	t	p
(Constant)	0.985	0.258		3.82	<.001***

Predictor	B	SE	β	t	p
Psychological Traits	0.320	0.073	0.212	4.39	<.001***
Digital Skills	0.117	0.073	0.078	1.60	.109
Socio-Cultural	0.095	0.065	0.066	1.46	.145
Support Systems	0.216	0.053	0.179	4.08	<.001***

Note. *** $p < .001$. $DV = Entrepreneurial Satisfaction$. $n = 682$. $R^2 = 0.198$, *Adjusted* $R^2 = 0.193$, $F(4, 677) = 41.78$, $p < .001$. All VIF values 1.63–2.02.

In both groups the order of influence matches the FGEP hierarchy: psychological traits are the strongest predictor, support systems are second, and digital skills and socio-cultural factors do not contribute significant unique variance. What differs is magnitude. Both psychological traits (standardized $\beta = 0.424$ versus 0.212) and support systems ($\beta = 0.244$ versus 0.179) carry more weight for first-generation entrepreneurs. The socio-cultural composite, marginally significant in the pooled model ($p = .025$), does not reach significance in either subgroup once each group is examined on its own.

To test whether these differences reflect a genuine group distinction rather than sampling variation, I conducted a moderation analysis on the combined sample, with non-first-generation entrepreneurs as the reference group and a first-generation indicator multiplied by each predictor. A significant interaction term indicates that a predictor operates differently for first-generation entrepreneurs. Table 4.35 reports the results.

Table 4.35 Moderation Analysis: First-Generation $\times$ Predictor Interactions

Term	B	SE	t	p
First-Generation (main effect)	−0.073	0.039	−1.89	.060
FG $\times$ Psychological Traits	0.284	0.094	3.03	.003**
FG $\times$ Digital Skills	−0.139	0.094	−1.48	.139
FG $\times$ Socio-Cultural	−0.023	0.082	−0.29	.775
FG $\times$ Support Systems	0.061	0.068	0.90	.370

Note. ** $p < .01$. Reference group = Non-First-Generation; predictors mean-centered. $n = 1,429$. A significant interaction indicates the predictor's effect differs by group.

Only one interaction is significant: first-generation status $\times$ psychological traits ($B = 0.284$, $p = .003$). The effect of psychological traits on entrepreneurial satisfaction is significantly stronger for first-generation entrepreneurs than for their non-first-generation peers. The larger digital-skills coefficient observed for non-first-generation entrepreneurs ($\beta = 0.078$ versus -0.016) points in the expected direction but does not reach significance (interaction $p = .139$); I therefore treat it as a non-significant trend rather than a finding.

This result sharpens the framework rather than complicating it. For entrepreneurs who do not inherit networks, capital, or built-in legitimacy, the internal engine carries more of the load — and the data now shows that it carries significantly more of it. The two groups hold equivalent levels of psychological resource (Section 4.10.1; composite $d = 0.00$), yet those resources translate into satisfaction more powerfully for first-generation founders. This is not a weaker

account of first-generation entrepreneurship; it is a sharper one. The pattern is consistent with the resilience interpretation advanced throughout this study: what first-generation entrepreneurs build internally is earned through adversity rather than inherited through advantage.

4.11 Summary of Findings

This chapter presented the results of quantitative analysis examining the characteristics that enable first-generation entrepreneurs to transition from aspiration to action and persist through the early stages of their ventures. The findings are summarized below, organized by research objective.

4.11.1 Objective 1: Psychological Traits and Motivational Drivers

Psychological traits emerged as the strongest predictor of entrepreneurial satisfaction ($\beta = 0.329$), contributing 5.27% unique variance in the integrated model. Self-efficacy exhibited the highest item-total correlation ($r = 0.603$), confirming that confidence in one's ability to succeed is the strongest single contributor to the psychological traits construct. First-generation entrepreneurs confirmed equivalent psychological resources to non-first-generation counterparts across all six trait dimensions, with negligible effect sizes ($d = -0.05$ to 0.06). Gen Z entrepreneurs scored significantly lower than Millennials across all psychological traits, with the composite showing a small but consistent effect ($d = -0.22$).

4.11.2 Objective 2: Socio-Cultural and Legitimacy-Building Factors

A highly significant difference emerged in cultural background influence between first-generation ($M = 4.003$) and non-first-generation entrepreneurs ($M = 4.189$), $t = -3.78$, $p < .001$, $d = -0.20$. This confirms the inherited advantage that comes from growing up in an entrepreneurial family environment. Trust and credibility importance showed no significant differences between

groups, suggesting both populations recognize the importance of legitimacy-building regardless of background. Socio-cultural factors contributed modest but significant unique variance (0.24%) in the integrated model.

4.11.3 Objective 3: Digital Skills and Entrepreneurial Ecosystems

Digital tool adoption was nearly universal, with 96.3% of respondents using digital tools at least sometimes for business operations. Digital proficiency ratings were high across the sample ($M = 4.335$, $SD = 0.720$), with no significant differences between first-generation and non-first-generation entrepreneurs. While digital skills correlated significantly with entrepreneurial satisfaction at the bivariate level ($r = .402$, $p < .001$), they did not contribute significant unique variance in the integrated model ($\beta = 0.022$, $p = .499$), suggesting digital skills influence outcomes indirectly through psychological and support mechanisms.

4.11.4 Objective 4: Mentorship, Peer Networks, and Community Support

A significant 9.7 percentage point mentorship gap exists between first-generation (74.4%) and non-first-generation (84.0%) entrepreneurs ($\chi^2 = 19.49$, $p < .001$). First-generation entrepreneurs also rated mentorship importance significantly lower ($M = 4.104$) than non-first-generation entrepreneurs ($M = 4.272$), $t = -3.42$, $p < .001$, $d = -0.18$. This paradox needing mentorship more but valuing it less, may reflect adaptive responses to limited access or lower expectations based on limited exposure to mentorship benefits. Support systems represented the second strongest predictor of entrepreneurial satisfaction ($\beta = 0.225$), contributing 3.04% unique variance.

4.11.5 Objective 5: Integrated Framework

The integrated model explained 30.5% of variance in entrepreneurial satisfaction ($R^2 = 0.305$, Adjusted $R^2 = 0.303$), $F(4, 1424) = 156.46$, $p < .001$. Psychological traits and support systems together accounted for approximately 8.3% unique variance, representing the vast majority of the model's explanatory power. The hierarchical structure reveals that internal resources (psychological traits) and external scaffolding (support systems) are the primary drivers of entrepreneurial satisfaction, while digital skills function as enabling infrastructure rather than direct predictors. Re-estimated on first-generation entrepreneurs alone, the model explained 39.3% of the variance in their entrepreneurial satisfaction ($R^2 = 0.393$), and psychological traits predicted satisfaction significantly more strongly for this group than for non-first-generation entrepreneurs (interaction $p = .003$; see Section 4.10.4).

4.11.6 Concluding Observations

The data tells a clear story. First-generation entrepreneurs are not psychologically disadvantaged, they develop equivalent grit, resilience, and self-efficacy as those with family business backgrounds. What they lack is access: access to mentorship, access to networks, access to the tacit knowledge that comes from growing up around entrepreneurship. Digital skills have leveled the playing field in terms of technical capability, but they cannot substitute for the psychological resources and support systems that drive persistence.

For first-generation entrepreneurs reading this, the message is both validating and actionable. Your internal resources are your greatest asset. Prioritize developing your psychological capabilities, especially self-efficacy and grit. Seek out mentorship and community even if, like me, you grew up believing you had to figure everything out on your own. The data shows that support systems matter, and accessing them is not a sign of weakness but a strategic advantage.

Chapter 5 will discuss these findings in relation to existing literature, draw conclusions about their theoretical and practical implications, and offer recommendations for first-generation entrepreneurs, support programs, educators, and future researchers.

CHAPTER 5

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

5.1 Introduction

5.1.1 Chapter Overview

This chapter synthesizes the empirical findings presented in Chapter 4, interpreting them within the context of existing literature and the theoretical frameworks that guided this research. The investigation into the first-generation entrepreneurial transition from aspiration to action has yielded significant evidence that reshapes how we understand this journey for those who walk it without the advantage of inherited business knowledge or familial networks. As established in Chapter 1, my own fifteen-year journey as a first-generation entrepreneur directly influenced the analytical lens applied to this data. I approached the interpretation of these findings with both scholarly objectivity and an awareness that behind every statistic is someone who shares the experience of building a venture without an inherited playbook.

The chapter is organized into nine interconnected sections that move from interpretation to application. Following this introduction, Section 5.2 provides a full summary of the study, summarizing the research problem, methodological approach, and key findings. Section 5.3 offers a detailed discussion of findings organized around six thematic areas: psychological traits as enablers of persistence, motivational drivers in the aspiration-action transition, digital literacy and ecosystem engagement, socio-cultural factors and legitimacy-building, mentorship and peer support effectiveness, and the integrated framework examining the interplay of all factors. Each subsection interprets the statistical results in relation to existing theory and compares findings

with seminal literature including Salisu et al. (2020), Newman et al. (2021), Sussan and Acs (2017), Karlsson and Williams-Middleton (2015), and Xero (2015).

Section 5.4 presents conclusions organized by research questions, addressing each of the five sub-questions that guided this investigation before synthesizing overall conclusions. Section 5.5 articulates the theoretical contributions of this dissertation, including contributions to entrepreneurship literature, extension of the Digital Entrepreneurial Ecosystem theory, and development of the interdisciplinary framework. Section 5.6 translates findings into practical implications and recommendations for five stakeholder groups: first-generation entrepreneurs themselves, support programs and accelerators, educational institutions, policymakers, and industry innovators seeking to develop AI-powered mentorship platforms, community-building tools, and digital literacy resources.

Section 5.7 acknowledges the limitations of this study, including methodological constraints, generalizability considerations, self-report bias, and the inherent limitations of cross-sectional design. Section 5.8 proposes directions for future research, recommending longitudinal studies, qualitative and mixed-methods approaches, cross-cultural comparisons, industry-specific investigations, and intervention effectiveness studies. The chapter concludes with Section 5.9, a final summary offering concluding remarks on the significance of this study and a call to action for all stakeholders invested in supporting the next generation of entrepreneurs.

5.1.2 Research Purpose Recap

This study was driven by a fundamental question that has both scholarly and deeply personal dimensions: What characteristics enable first-generation entrepreneurs to transition from entrepreneurial aspiration to action and persist through the critical early stages of their

ventures in the digital age? The purpose extended beyond theoretical contribution to address a practical necessity. I have a deep conviction that entrepreneurship is not just about making money or building wealth. Entrepreneurship means taking responsibility. Is it risky, yes, but it is also service. Entrepreneurs create jobs. They provide value. They serve customers. They gather resources, take risks, innovate, employ others, create economic activity, and move humanity forward. Entrepreneurs are a special group of people who are called to this journey. Not everyone is called to entrepreneurship, and that is acceptable. But for those who are, I have a deep affinity for them. Yet millions of potential entrepreneurs, particularly those without family business backgrounds, remain trapped in the aspiration phase, unable to translate their ambitions into meaningful action.

The first question examined how psychological traits (including resilience, grit, stress management capacity, entrepreneurial identity, passion, and self-efficacy) contribute to entrepreneurial persistence among first-generation entrepreneurs and which traits demonstrate the strongest predictive power. The second question investigated how socio-cultural influences and legitimacy-building strategies shape entrepreneurial behaviors and enable first-generation entrepreneurs to establish market credibility in the absence of inherited networks. The third question explored the ways digital literacy and engagement with digital entrepreneurial ecosystems including AI tools, social media platforms, and collaborative technologies influence entrepreneurial persistence and compensate for traditional resource constraints.

The fourth question examined the relationship between mentorship access, peer network engagement, and entrepreneurial satisfaction among first-generation entrepreneurs, and whether significant disparities exist compared to non-first-generation entrepreneurs. The fifth question sought to understand how psychological traits, digital skills, and external support systems

interact to drive entrepreneurial persistence, and what the relative contribution of each domain is to entrepreneurial outcomes. By investigating these dimensions among 1,439 entrepreneurs, with particular emphasis on the 749 first-generation entrepreneurs and 358 first-generation Generation Z individuals in the sample, this study sought to provide actionable insights that can help more entrepreneurs take that first step and persist through the challenges that inevitably follow.

My hope with this research has always been that the data, the findings, and the insights from this study spark something even if small, even if just a catalyst. If it helps more entrepreneurs around the world start, persist, and build something meaningful, then this work has done what I hoped it would do.

5.2 Summary of the Study

5.2.1 Research Problem and Purpose

Despite unprecedented entrepreneurial aspirations among younger generations with 54% of Generation Z expressing intentions to start businesses and 61% of Americans having considered entrepreneurship a significant aspiration-action gap persists (Schroeder, 2020; Zapier, 2021). This gap is disproportionately pronounced among first-generation entrepreneurs who, lacking inherited business networks, familial mentorship, and socio-cultural legitimacy, must independently develop the psychological resources, digital competencies, and support structures necessary for venture creation (Chababi, Chreim and Spence, 2017; Karlsson and Williams-Middleton, 2015).

Current theoretical frameworks, including the Digital Entrepreneurial Ecosystem model (Sussan and Acs, 2017), inadequately address the unique intersection of challenges faced by first-generation entrepreneurs. Existing research has examined psychological traits, digital

literacy, and mentorship as independent constructs, yet no integrated interdisciplinary framework explains how these factors interact to enable or constrain the aspiration-action transition among first-generation entrepreneurs in digitally-mediated environments. Without understanding those mechanisms, support programs and policy interventions remain poorly targeted.

The purpose of this research was therefore twofold. First, it sought to identify and analyze the specific characteristics psychological traits, digital competencies, and external support systems that enable first-generation entrepreneurs to bridge the aspiration-action gap. Second, it aimed to develop an integrated framework explaining how these factors interact to drive entrepreneurial persistence and inform the design of more effective support interventions.

5.2.2 Methodology Overview

I adopted a quantitative, cross-sectional survey design, collecting data through a 39-item structured survey administered via Typeform and recruited through targeted Meta advertising campaigns across the United States, Canada, the United Kingdom, and Australia. Coming from an engineering background, I chose this approach deliberately: a quantitative method helped remove the personal bias that could have surfaced in qualitative interpretation. The final analytical sample comprised 1,439 valid responses exceeding the target of 800–1,200 with near-equal representation of Generation Z and Millennial cohorts and a balanced split between first-generation and non-first-generation entrepreneurs. The analytical approach included reliability analysis, correlation analysis, multiple regression modeling, and comparative analyses using t-tests and chi-square tests, with effect sizes interpreted according to Cohen's (1988) conventions. Full methodological detail is provided in Chapter 3, and all statistical results are reported in Chapter 4.

5.2.3 Key Findings

Five principal findings emerged from the analysis. Each is summarized here in narrative form; the full statistical evidence supporting each finding appears in Chapter 4.

First, psychological traits emerged as the strongest predictor of entrepreneurial persistence, outperforming all other constructs in the integrated regression model and contributing the largest share of unique variance. Within the psychological construct, self-efficacy demonstrated the strongest relationship with the overall scale, a result that makes sense to me. If you do not believe you can do it, you will not try. That single belief drives more of the psychological equation than any other trait measured. This finding aligns with the work of Salisu et al. (2020), who positioned grit and resilience as critical enablers for entrepreneurs building first-time ventures without inherited business knowledge.

Second, the data revealed a significant mentorship gap between first-generation and non-first-generation entrepreneurs. Those without family business backgrounds were meaningfully less likely to report having a mentor and rated mentorship as less important, a pattern that likely reflects limited access rather than limited need (see Section 4.8 for the comparative analysis). This finding represents a central contribution of the dissertation. Seeing how much less access first-generation entrepreneurs have to mentorship, and how strongly mentorship correlates with persistence, made me realize that my own experience may have been different. If I could go back to 2011 when I quit my engineering job to start my first business with no idea what I was doing, I would have told myself to overemphasize the importance of networking, to put more effort into finding a community of like-minded people I could learn from.

Third, digital skills operated indirectly through psychological confidence rather than as a direct predictor of entrepreneurial outcomes. Although digital proficiency correlated positively with satisfaction at the bivariate level, it did not contribute significant unique variance in the integrated model once psychological and support factors were accounted for. Nearly all respondents reported using digital tools for business operations, and proficiency ratings were high across both first-generation and non-first-generation groups. This pattern suggests that digital competence functions as an equalizer. Once someone has the skills, they are able to step into the entrepreneurial identity with confidence. That belief changes how they show up, how they take action, and how they persist.

Fourth, support systems (including mentorship, peer networks, and online communities) emerged as the second-strongest predictor of entrepreneurial satisfaction in the integrated model. The evidence confirms the value I wish I had understood earlier: find people who are doing what you want to do, people who have already been there. Surround yourself with a strong community of entrepreneurs and entrepreneurially minded people who are committed to their purpose, their calling, and their work.

Fifth, Generation Z entrepreneurs exhibited lower psychological trait scores than Millennials across all measured dimensions, yet reported equivalent satisfaction levels. The effects were small but consistent, suggesting different pathways to entrepreneurial fulfillment rather than fundamentally different psychological profiles. This finding points toward targeted, generation-specific interventions rather than a wholesale rethinking of support models.

Taken together, the integrated model explained a meaningful proportion of variance in entrepreneurial satisfaction, with psychological traits and support systems as the dominant predictors and socio-cultural factors contributing a modest but significant effect. What stands out

most is that first-generation status did not directly predict satisfaction once psychological traits and support access were controlled, a pattern suggesting that the challenges these founders face may be more structural than dispositional. They possess the same psychological capabilities as their non-first-generation counterparts. The barriers are access to networks, mentorship, and legitimacy, not mindset. That distinction has profound practical implications and is discussed in detail in Section 5.3.

5.3 Discussion of Findings

This section interprets the empirical findings presented in Chapter 4 within the context of existing literature and theoretical frameworks. The discussion is organized around six thematic areas that correspond to the research objectives: psychological traits as enablers of persistence, motivational drivers in the aspiration-action transition, digital literacy and ecosystem engagement, socio-cultural factors and legitimacy-building, mentorship and peer support effectiveness, and the integrated framework examining the interplay of all factors. Throughout this discussion, I draw upon my own experience as a first-generation entrepreneur to contextualize these findings and explain their practical significance.

5.3.1 Psychological Traits as Enablers of Persistence

The finding that psychological traits emerged as the strongest predictor of entrepreneurial satisfaction ($\beta = 0.329$, $p < .001$), contributing 5.27% unique variance in the integrated model, represents the most substantial contribution of this research. This result confirms that the internal psychological architecture of entrepreneurs serves as the primary engine driving persistence through the challenging early stages of venture creation. For first-generation entrepreneurs who

lack inherited business knowledge and familial networks, these psychological resources become even more critical; they represent the foundation upon which all other capabilities must be built.

5.3.1.1 Interpretation of Resilience and Grit Findings

The reliability analysis demonstrated good internal consistency for the psychological traits scale (Cronbach's $\alpha = 0.769$). Self-efficacy exhibited the highest item-total correlation ($r = 0.603$), indicating that belief in one's own capability is the dominant element within the broader psychological traits construct. This dissertation aligns with Bandura's (1997) theoretical framework, which positions self-efficacy as a fundamental driver of persistence and goal-directed behavior. Grit exhibited the highest mean score among psychological traits ($M = 4.357$, $SD = 0.724$), with 90.8% of respondents agreeing or strongly agreeing that they finish what they begin.

This discovery closely aligns with my own entrepreneurial journey. When I launched my first business in 2011 with no idea what I was doing, I struggled badly. I could not sell. I did not know how to build a business. Months would go by without making any money, so much so that I lived in my car on two separate occasions. I remember sometimes waking up from the cold and deciding to head to the gym and starting my day. Other times, I would stay out very late working, just so I could find a place to park my car and sleep. At one point, I was even afraid my car would be repossessed while I was sleeping in it because I could not afford the payments. All of this happened because I was starting a business and had no idea what it took to be a successful business owner and I refused to give in and take the easy path. What kept me going was not simply the ability to bounce back from those setbacks, but rather a deep internal conviction that I was meant to be doing what I was doing. There was an unwavering belief that I was on the right path, that things happen for a reason, and that I had to keep going because I was still here. That

sense of purpose and calling has been central to my journey as an entrepreneur. Psychological resilience, especially when it comes to managing mental stress, has a lot to do with perspective, focus, and the meaning we assign to what we are experiencing. It also has a lot to do with recognizing our habitual patterns of thought and understanding that those patterns are not who we are. They are just habits. And habits can be changed.

5.3.1.2 Comparison with Salisu et al. (2020) and Newman et al. (2021)

These findings provide strong empirical support for the theoretical assertions advanced by Salisu et al. (2020) and Newman et al. (2021). Salisu et al. (2020) emphasized that grit and resilience are critical traits that enable entrepreneurs to overcome challenges, especially for those starting first-time ventures without the safety nets of inherited business knowledge. The current research extends their work by confirming that self-efficacy, confidence in one's ability to succeed, exhibits the strongest relationship with the overall psychological traits construct ($r = 0.603$), confirming its centrality to first-generation entrepreneurial persistence.

Newman et al. (2021) provided key insights into the role of entrepreneurial passion in sustaining venture commitment, defining it as the intense positive emotion driving entrepreneurial engagement that proves essential for sustaining effort and perseverance during difficult periods. The present study's finding that entrepreneurial passion produced strong item-total correlations ($r = 0.498$) validates their theoretical framework while extending its application to first-generation entrepreneurs in particular. The integration of passion with persistence-oriented traits creates a psychological profile characterized by both emotional investment and behavioral consistency.

The analysis also revealed something I did not expect: first-generation and non-first-generation entrepreneurs did not differ significantly on core psychological traits including grit, resilience, entrepreneurial identity, passion, and self-efficacy. Effect sizes were negligible ($d = -0.05$ to 0.06). This tells us of a significant finding: first-generation entrepreneurs possess the same psychological characteristics as individuals from business families, despite lacking that initial exposure. Their challenges are thus more structural stemming from issues with access to networks, mentorship, and perceived legitimacy, than a matter of personal disposition. These results challenge deficit-based narratives about first-generation entrepreneurs and redirect intervention efforts toward addressing structural barriers rather than attempting to remediate perceived psychological shortcomings.

5.3.1.3 Role of Emotional Intelligence and Self-Regulation

The prominence of self-efficacy as the trait most central to the psychological construct points to the critical role of confidence and self-belief in entrepreneurial persistence. Aly, Audretsch and Grimm (2021) argued that emotional skills, including resilience and adaptability, can be cultivated through targeted educational initiatives. The current findings support this developmental perspective: if self-efficacy represents the most consequential psychological capability for first-generation entrepreneurs, and if this capability can be developed rather than being a fixed trait, then intervention programs have a clear target for skill-building efforts.

The data also revealed generational differences in psychological trait scores, with Gen Z entrepreneurs scoring significantly lower than Millennials across all traits (composite $d = -0.22$, $p < .001$). This suggests that younger entrepreneurs may benefit from intentional psychological skill-building as part of support programming. However, despite those lower trait scores, Gen Z

entrepreneurs reported equivalent satisfaction levels, indicating that alternative pathways to entrepreneurial fulfillment may exist for this generation.

5.3.2 Motivational Drivers in the Aspiration-Action Transition

Understanding what drives first-generation entrepreneurs to move from aspiration to action requires examining both intrinsic and extrinsic motivational factors. The research objective sought to investigate motivational drivers including intrinsic factors such as purpose and self-fulfillment alongside extrinsic factors such as financial independence and flexibility (Kratz, 2024; The Hustle, 2024). The findings show how these motivational forces interact to propel first-generation entrepreneurs through the critical transition from dreaming about entrepreneurship to actually building ventures.

The empirical evidence suggests that intrinsic motivational drivers, reflected in entrepreneurial identity and passion, demonstrate strong relationships with entrepreneurial satisfaction. Entrepreneurial identity, captured through the item measuring agreement that being an entrepreneur is important to who I am, showed 83.7% of respondents agreeing or strongly agreeing. Similarly, entrepreneurial passion, measured through time spent thinking about business ideas, showed 85.1% agreement rates. These high levels of intrinsic motivation suggest that first-generation entrepreneurs who persist through early-stage challenges are driven primarily by internal purpose rather than external rewards.

The empirical evidence aligns with my personal conviction that entrepreneurship, for those who are truly called to it, represents something deeper than a career choice. There is a strong belief that things happen for a reason, that I am on the right path, and that I have to keep going because I am still here. That unwavering internal conviction has been central to my

journey as an entrepreneur. The data suggests I am not alone in this experience: the strong positive relationships between entrepreneurial identity and satisfaction reveal that those who have internalized entrepreneurship as part of their core identity experience greater fulfillment in their entrepreneurial pursuits.

On the other hand, the research also reveals that intrinsic motivation alone is insufficient to overcome systemic barriers. The target population analysis of first-generation Generation Z entrepreneurs ($n = 358$) identified that the top three barriers (lack of funding, limited networks, and lack of knowledge) account for the majority of reported challenges and are all resource-related rather than motivation-related. This research pattern indicates that while intrinsic motivation provides the psychological fuel for entrepreneurial persistence, structural barriers related to resources, networks, and knowledge continue to impede the aspiration-action transition regardless of motivational intensity.

5.3.2.1 Comparison with The Hustle (2024) and Deloitte (2024) Data

The Hustle (2024) reported that many entrepreneurs are driven by the desire to escape traditional work models and align their careers with personal values and aspirations. The current findings corroborate this observation: the high levels of entrepreneurial identity and passion in the sample suggest that first-generation entrepreneurs are indeed motivated by alignment between their work and their sense of purpose. Deloitte's (2024) research on Generation Z and Millennial values in the workplace provides additional context for interpreting these motivational findings. Their emphasis on purpose-driven work aligns with the current study's finding that entrepreneurial passion serves as a significant component of the psychological traits construct that predicts persistence.

The data clearly establishes what sustains persistence: self-efficacy, and, grit. But it does not fully capture what initiates the aspiration in the first place. I believe there is a distinction between entrepreneurs driven by purpose and those driven primarily by financial outcomes, and I suspect that distinction shapes how someone responds to the stress and setbacks this dissertation documents. That question, what ignites the aspiration that precedes the action, was beyond the scope of this study's survey instrument but represents an important direction for future investigation, which I address in Section 5.8.5.

5.3.3 Digital Literacy and Ecosystem Engagement

The role of digital literacy and ecosystem engagement in entrepreneurial persistence emerged as one of the most layered findings of this research. While digital tools have become standard in modern entrepreneurship, their contribution to persistence operates differently than initially hypothesized, functioning as facilitating foundation rather than as direct predictors of entrepreneurial outcomes.

5.3.3.1 Impact of Digital Skills on Persistence

The descriptive findings revealed near-universal digital engagement among the sample. Digital tool importance recorded the highest mean among digital variables ($M = 4.372$, $SD = 0.725$), with 90.9% of respondents agreeing that digital tools are essential for business success. Digital proficiency was similarly high ($M = 4.335$, $SD = 0.720$), with 90.8% reporting confidence in their digital capabilities. Regarding usage frequency, 51.5% used digital tools often, 23.2% sometimes, and 21.6% daily, with only 3.8% reporting rare or no usage. The internal consistency of the digital skills scale was good (Cronbach's $\alpha = 0.724$).

Even so, the most significant finding regarding digital skills emerged from the integrated regression model. While bivariate analyses revealed significant positive correlations between digital tool proficiency and entrepreneurial outcomes ($r = .402$, $p < .001$), digital skills did not contribute statistically significant unique variance in the integrated model when controlling for psychological and support factors ($\beta = 0.022$, $p = .499$, contributing only 0.02% unique variance). The presence of significant bivariate correlations, contrasted with a non-significant unique contribution in the integrated model, provides valuable insight into the underlying relationships. It suggests that digital skills influence entrepreneurial outcomes indirectly, through their effects on psychological confidence, support network access, and legitimacy-building capability, rather than directly predicting satisfaction.

5.3.3.2 Integration with Sussan and Acs (2017) Framework

These findings need to be read alongside the Digital Entrepreneurial Ecosystem (DEE) framework developed by Sussan and Acs (2017), which merges the concepts of digital and entrepreneurial ecosystems to understand how agents and users interact in the modern era. The DEE framework emphasizes that digital ecosystems create global access points for resources and mentorship, which are critical for overcoming the inherent disadvantages faced by first-generation entrepreneurs. However, their framework positions digital infrastructure as an enabling environment rather than a direct success factor, a theoretical distinction that the current empirical findings strongly support.

The Sussan and Acs (2017) framework does an excellent job of explaining infrastructure, policy, marketplaces, and environment. But it treats entrepreneurs as digital citizens without really accounting for the internal barriers faced by people who did not grow up in business-oriented families. My contribution, I believe, adds a psychological layer to that framework. It

suggests that mental stamina is the engine that allows the digital infrastructure to actually move. And that digital skills and online communities are not just tools; they are resource multipliers that can compensate for the lack of inherited networks.

5.3.3.3 Role of AI-Driven Tools and Platforms

Patriak (2023) emphasized the role of digital literacy in equipping entrepreneurs with the skills to move through disruptive environments, noting that emerging technologies such as AI-driven tools offer significant potential for automating processes and enabling precision-driven strategies, particularly for entrepreneurs with limited prior experience. The current findings support this assertion: AI tools represented a substantial portion of the digital tools employed by respondents, suggesting meaningful adoption among the sample.

What the data reveals is that technology is subsidizing some of the hard work and grit that used to be required to succeed as an entrepreneur. Even though knowing how to use AI, social media, or digital tools does not automatically make someone successful, learning those skill sets builds confidence. It builds self-efficacy. And it often creates access to online networks that make it easier to start a venture and persist through the early stages. Once someone has the skills, they are able to step into the entrepreneurial identity with confidence. That belief changes how they show up, how they take action, and how they persist. When someone believes they are an entrepreneur and feel capable of providing value, that becomes a real equalizer, and it strengthens the self-efficacy needed to keep going.

The finding that first-generation and non-first-generation entrepreneurs show largely equivalent digital capabilities reinforces this interpretation. Digital skills serve as an equalizing factor first-generation entrepreneurs are not disadvantaged in their digital competencies despite

lacking inherited business knowledge. For first-generation entrepreneurs who do not have family resources, business exposure, or built-in communities to lean on, digital skills and online communities can multiply what they do have and help make up for what they did not grow up with. In that sense, digital proficiency can subsidize missing familial capital, and that is extremely important.

5.3.4 Socio-Cultural Factors and Legitimacy-Building

Building legitimacy is essential for first-generation entrepreneurs who must work through societal biases and lack inherited trust-based networks. The research findings reveal how these entrepreneurs develop credibility through strategic approaches that compensate for the absence of familial business reputation.

Effectiveness of Legitimacy Strategies. Respondents overwhelmingly recognized trust and credibility as essential to entrepreneurial success, with trust and credibility importance recording the highest mean among socio-cultural variables ($M = 4.398$, $SD = 0.729$). This near-universal recognition confirms the centrality of legitimacy for first-generation entrepreneurs lacking inherited reputational capital. Socio-cultural factors exerted a modest but statistically significant effect in the integrated model ($\beta = 0.068$, $p = .025$), contributing 0.24% unique variance.

A highly significant difference emerged in cultural background influence between first-generation ($M = 4.003$) and non-first-generation entrepreneurs ($M = 4.189$), $t = -3.78$, $p < .001$, $d = -0.20$. First-generation entrepreneurs perceive less positive influence from their cultural background on their entrepreneurial journey, confirming the inherited advantage that comes from growing up in an entrepreneurial family environment. This data provides empirical validation for

the theoretical assertion that first-generation entrepreneurs face legitimacy deficits that must be addressed through deliberate strategy rather than inherited reputation.

5.3.4.1 Comparison with Karlsson and Williams-Middleton (2015)

Karlsson and Williams-Middleton (2015) identified pragmatic legitimacy-building approaches including drawing on social capital, obtaining certifications, and showcasing transparency in business operations. The current findings provide empirical support for their theoretical framework while extending it to demonstrate how the cultural background influence gap creates differential starting points for first-generation versus non-first-generation entrepreneurs in their legitimacy-building efforts. First-generation entrepreneurs must build credibility through mechanisms within their direct control: satisfying customers who can provide testimonials, obtaining certifications that signal competence independently of social connections, and using digital platforms to establish professional presence, rather than relying on inherited family reputation or established business networks.

5.3.4.2 Cultural Influences on Entrepreneurial Behavior

The finding that cultural background influence was rated significantly lower by first-generation entrepreneurs speaks to the structural disadvantages this population faces. As I described in Chapter 1, I grew up without any exposure to entrepreneurship; no family business, no role models, no awareness that building a company was even an option. The data confirm that this experience is shared by many first-generation entrepreneurs: lacking the cultural capital that comes from family business exposure creates a measurable gap in perceived environmental support for entrepreneurial pursuits.

5.3.5 Mentorship and Peer Support Effectiveness

The findings regarding mentorship and peer support effectiveness represent among the most actionable contributions of this investigation. The data reveals both the critical importance of support systems and the significant gaps in access that first-generation entrepreneurs experience, gaps that have profound implications for intervention design.

5.3.5.1 Impact of Mentorship on Persistence

Support systems emerged as the second-strongest predictor of entrepreneurial satisfaction in the integrated model ($\beta = 0.225$, $p < .001$), contributing 3.04% unique variance. Both mentorship importance ($M = 4.185$, $SD = 0.928$) and peer network helpfulness ($M = 4.204$, $SD = 0.807$) recorded high means, indicating respondents recognize the value of support systems for entrepreneurial success.

On the other hand, the most consequential finding concerns the mentorship gap facing first-generation entrepreneurs. As reported in Section 4.8, the 9.7 percentage point mentorship gap represents one of the most consequential findings of this research. The majority of respondents (40.4%) received both formal and informal mentorship, while formal mentorship (22.9%) and informal mentorship (22.1%) were equally common among those receiving only one type. First-generation entrepreneurs who do receive mentorship face a double disadvantage, lacking both inherited business knowledge (first-generation status) and the networks that facilitate mentorship connections.

This observation represents a central contribution of this dissertation and has profound implications for my understanding of my own entrepreneurial journey. Seeing how much less access first-generation entrepreneurs have to mentorship, and how strongly support systems predict persistence, made me realize that my own experience may have been different. There are

likely other factors contributing to my persistence that were not captured in this study. I was conscious of that and kept my personal story separate from the data analysis. But the data clearly shows that first-generation entrepreneurs face systematic barriers to accessing mentorship, likely stemming from limited professional networks, absence of family business connections, and fewer entry points into entrepreneurial ecosystems where mentorship relationships are formed.

5.3.5.2 The Mentorship Importance Paradox

In addition to the gap in mentorship receipt, a significant gap emerged in perceived mentorship importance. First-generation entrepreneurs rated mentorship importance significantly lower ($M = 4.104$) than non-first-generation entrepreneurs ($M = 4.272$), $t = -3.42$, $p < .001$, $d = -0.18$. This pattern may reflect lower expectations based on limited exposure to mentorship benefits, or an adaptive response to reduced access.

This paradox, needing mentorship more but rating it as less important, speaks to the psychology of first-generation entrepreneurs. If you grow up having to figure things out on your own, without guidance or support, you usually go one of two ways. Either you give in to the circumstances, do not persist, and never pursue the entrepreneurial dream. Or you become someone who learns how to succeed despite not having mentorship. You adapt to doing everything on your own. Because of that, as a first-generation entrepreneur, I would have rated mentorship as less important not because it is not valuable, but because there is this internal belief that you have to do it on your own. You are not used to receiving help, support, or guidance. First-generation entrepreneurs, by definition, did not grow up with entrepreneurs in their families. They did not see someone close to them building a business. They did not grow up observing what it takes to succeed in business. So, when they start their own business, especially at the beginning of the journey, mentorship is not something they are accustomed to.

5.3.5.3 Comparison with Xero (2015) Findings

Xero (2015) stressed the importance of strong mentorship relationships in reducing overwhelm and building resilience, particularly during the early stages of venture creation. The current findings provide strong empirical support for this assertion while extending it to show the specific mentorship gap facing first-generation entrepreneurs. Xero's emphasis on mentorship as protective against overwhelm takes on particular significance in light of the finding that first-generation entrepreneurs who may be most vulnerable to overwhelm given their reduced access to guidance have systematically lower access to this protective factor.

If I could go back to 2011 when I quit my engineering job to start my first business with no idea what I was doing, and I could hand myself one insight from this research, it would be this: overemphasize the importance of your network. I would have told myself to put more effort into finding a community of like-minded people I could learn from. I think that alone would have saved me years of trial and error. It would have helped me build stronger relationships sooner and opened doors I did not even know existed, simply because of the power of community and the mentorship that naturally happens inside those environments. Growing up, I had this mindset that I had to do everything myself, that I had to figure it all out on my own. I carried that mentality straight into my entrepreneurial journey. I felt very isolated for a long time. When I did meet someone entrepreneurial, I sometimes stuck around too long or got involved in ventures that were not really aligned with what I wanted to do, simply because the opportunity was there. I could have accomplished more, faster, if I had surrounded myself with more like-minded people earlier.

This study gave me a different perspective on mentorship and just how critical it really is. It also opened my eyes even more to the importance of combining mentorship with mindset,

resilience, and psychological development. At the beginning of the entrepreneurial journey, when someone is excited and dreaming and ideating, those traits might not feel as necessary. But once reality hits, once action starts, once days turn into weeks, and you realize how much work, risk, and uncertainty are involved, that is when mentorship and resilience really matter.

5.3.6 Integrated Framework: Interplay of Factors

The fifth research objective sought to develop an interdisciplinary framework that evaluates the interaction between psychological traits, digital skills, and external support systems in driving entrepreneurial persistence. The integrated regression analysis provides empirical grounding for this framework, revealing how these factors combine to explain entrepreneurial outcomes among first-generation entrepreneurs.

5.3.6.1 How Factors Interact to Drive Persistence

The integrated model explains 30.5% of variance in entrepreneurial satisfaction ($R^2 = 0.305$, Adjusted $R^2 = 0.303$), $F(4, 1424) = 156.46$, $p < .001$, exceeding Cohen's (1988) threshold of $R^2 = 0.26$ for a large effect in behavioral research. The unique variance contributions reveal the proportional contribution of each predictor domain: psychological traits contributed 5.27% unique variance, support systems contributed 3.04%, socio-cultural factors contributed 0.24%, and digital skills contributed 0.02% (non-significant). Together, psychological traits and support systems account for approximately 8.3% of unique variance, representing the vast majority of the model's explanatory power.

The standardized coefficients in the full model reveal the unique contribution of each domain when controlling for all others. Psychological traits demonstrated the strongest effect ($\beta = 0.329$, $p < .001$), followed by support systems ($\beta = 0.225$, $p < .001$), and socio-cultural factors

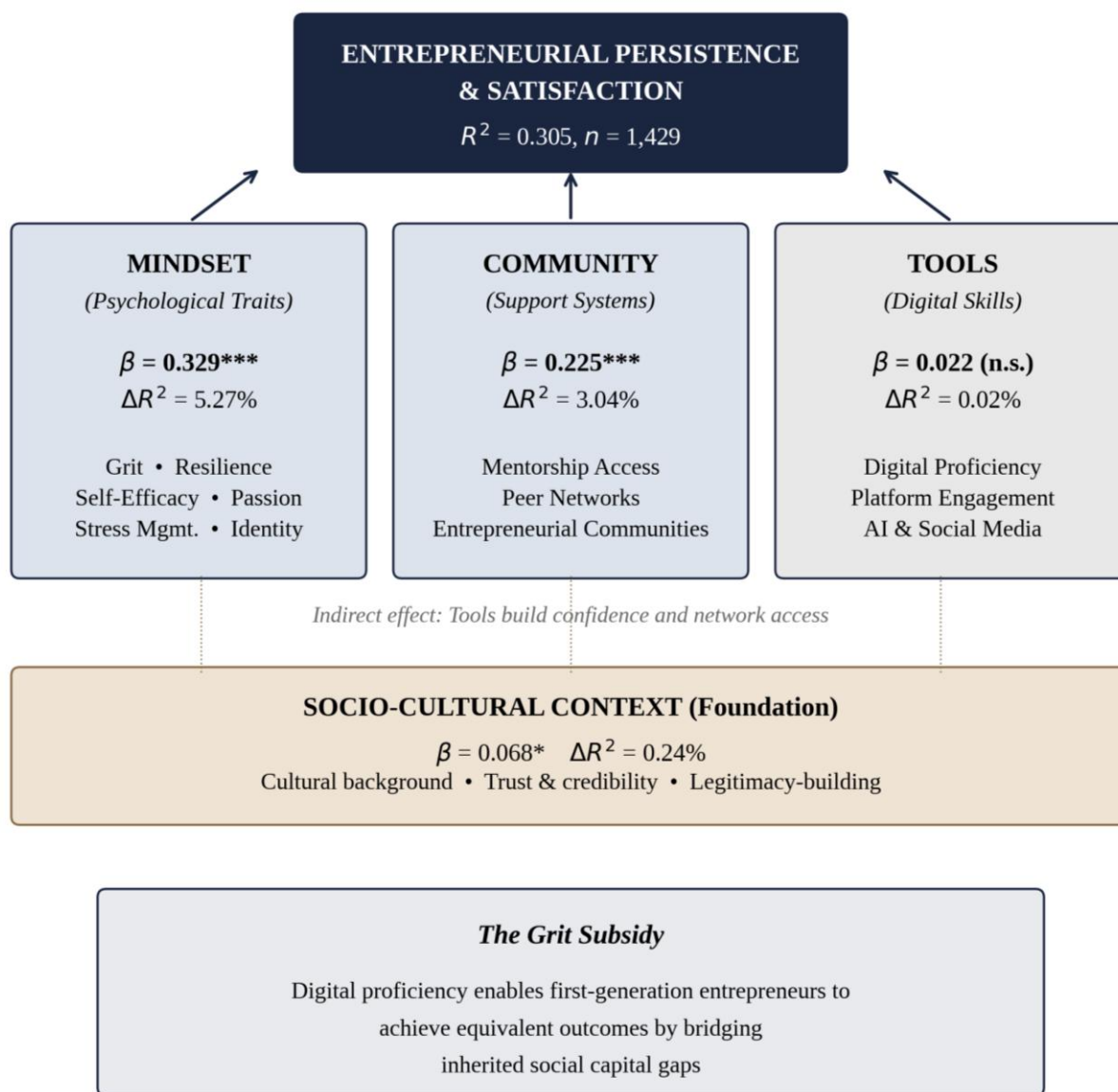
($\beta = 0.068$, $p = .025$). Digital skills did not contribute significant unique variance ($\beta = 0.022$, $p = .499$). The non-significance of digital skills in the integrated model is particularly notable given their strong bivariate correlations with satisfaction ($r = .402$), suggesting that digital skills operate indirectly through their influence on psychological confidence and support access rather than as an independent predictor.

The finding that psychological traits and support systems are the primary predictors of entrepreneurial satisfaction, combined with the equivalence of psychological resources between first-generation and non-first-generation entrepreneurs (composite $d = 0.00$, $p = .966$), suggests that targeted interventions enhancing these factors may enable first-generation entrepreneurs to achieve satisfaction levels comparable to their more advantaged counterparts. It should be noted that this inference is drawn from the pattern of findings across multiple analyses rather than from a single regression model that included first-generation status as a predictor variable. I conclude that the challenges faced by first-generation entrepreneurs can be addressed through targeted interventions that enhance psychological capabilities and expand support access, rather than being viewed as immutable consequences of background.

5.3.6.2 Proposed Interdisciplinary Framework

Based on the empirical findings, I propose the FGEP Framework as a three-pillar model for understanding first-generation entrepreneurial persistence. The framework identifies three pillars that together account for 30.5% of variance in entrepreneurial satisfaction. The first pillar is mindset internal grit, confidence, self-belief, and the psychological resources that emerged as the strongest predictor in this research. The second pillar is tools on how to use digital platforms, social media, and AI, which operate as assisting infrastructure that builds confidence and provides access to resources. The third pillar is community the mentorship and networks that

first-generation entrepreneurs have to build from scratch, representing the second-strongest predictor in the integrated model.



*** $p < .001$ * $p < .05$ n.s. = not significant

Figure 5.1. The First-Generation Entrepreneurial Persistence (FGEP) Framework. Three interconnected pillars, Mindset (Psychological Traits), Community (Support Systems), and Tools (Digital Skills), contribute to entrepreneurial persistence. Standardized beta coefficients and unique variance contributions (ΔR^2) are from the integrated regression model ($R^2 = 0.305, n = 1,429$). Digital skills operate indirectly through psychological confidence and support network access. Socio-cultural context serves as the foundation upon which all three pillars rest.

This framework extends the Digital Entrepreneurial Ecosystem model of Sussan and Acs (2017) by adding a psychological layer that their original model does not address. Sussan and Acs explain infrastructure, policy, and environment but they treat the entrepreneur as a given. My contribution says: the entrepreneur is not a given. Mental stamina is the driver that allows the digital infrastructure to actually move. And for founders who did not inherit family resources, business exposure, or built-in communities, digital skills and online networks serve as resource multipliers compensating for capital they were never handed. That compensatory function is what I call the Grit Subsidy, and the pattern of findings is consistent with it.

The framework also incorporates the legitimacy-building scholarship of Karlsson and Williams-Middleton (2015) as a pathway through which entrepreneurs convert psychological resources and network connections into market-recognized credibility. Socio-cultural factors, while contributing more modestly to outcomes (0.24% unique variance), operate as the mechanism through which internal capabilities translate into external recognition.

5.3.6.3 Interpretation of the Integrated Framework

What the integrated framework makes clear and what Chapter 4 established empirically is a hierarchy that challenges conventional wisdom about what matters most for entrepreneurial persistence. The popular narrative positions technology as the great equalizer. The data says otherwise. With 96.3% of the sample already using digital tools, digital competence has become a floor, not a ceiling. Everyone is on the highway. What determines how far someone travels is the psychological engine driving them and the support network keeping them on the road.

This hierarchy has a specific implication for intervention design that I address in Section 5.6: programs that pour resources into technical training while neglecting psychological

development and mentorship access are addressing the least consequential factor in the model. The data does not leave room for ambiguity on this point.

5.4 Conclusions

This section presents the conclusions of this research, organized by the five research questions that guided the investigation, followed by overall conclusions that synthesize the findings into a coherent understanding of first-generation entrepreneurial persistence. These conclusions emerge directly from the empirical evidence presented in Chapter 4 and interpreted in Section 5.3, yet they also reflect my own experience as someone who has lived this journey.

5.4.1 Conclusions by Research Question

Research Question 1: How do psychological traits contribute to entrepreneurial persistence among first-generation entrepreneurs, and which traits demonstrate the strongest predictive power?

The evidence conclusively demonstrates that psychological traits represent the strongest predictor of entrepreneurial satisfaction among first-generation entrepreneurs, contributing 5.27% unique variance ($\beta = 0.329$, $p < .001$) when controlling for all other factors in the integrated model. Self-efficacy emerged as the trait most central to the overall psychological construct ($r = 0.603$), indicating that confidence in one's ability to succeed is particularly consequential for persistence. Grit recorded the highest mean score ($M = 4.357$, $SD = 0.724$), with over 90% of respondents agreeing they finish what they begin.

I conclude that psychological traits serve as the primary engine driving entrepreneurial persistence. For first-generation entrepreneurs who lack inherited business knowledge and familial networks, these internal psychological resources become the foundation upon which all

other capabilities must be built. The data confirms what I have experienced in my own journey: when the external scaffolding is stripped away no family playbook, no inherited network, no safety net what remains is the internal architecture of belief, resilience, and the psychological durability to keep showing up. That architecture is not inherited. It is built. And the regression confirms it is the single most consequential factor in whether a first-generation entrepreneur persists.

The data is unambiguous on this point: first-generation and non-first-generation entrepreneurs exhibited equivalent psychological traits across all six dimensions measured, with negligible effect sizes ($d = -0.05$ to 0.06). I can conclude the challenges for first-generation entrepreneurs are best characterized as systemic, not due to personal shortcomings. They possess comparable psychological capabilities to their non-first-generation counterparts despite lacking family business exposure. These takeaways challenge deficit-based narratives and redirect intervention efforts toward addressing structural barriers — access to networks, mentorship, and legitimacy — rather than attempting to remediate perceived psychological shortcomings.

Research Question 2: How do socio-cultural influences and legitimacy-building strategies shape entrepreneurial behaviors among first-generation entrepreneurs?

Socio-cultural factors demonstrated a modest but statistically significant effect on entrepreneurial satisfaction ($\beta = 0.068$, $p = .025$), contributing 0.24% unique variance in the integrated model. Respondents overwhelmingly recognized trust and credibility as essential to entrepreneurial success ($M = 4.398$, $SD = 0.729$). A significant gap emerged in cultural background influence between first-generation ($M = 4.003$) and non-first-generation entrepreneurs ($M = 4.189$), $t = -3.78$, $p < .001$, $d = -0.20$.

I conclude that first-generation entrepreneurs face legitimacy deficits that must be addressed through deliberate strategy rather than inherited reputation. My own experience confirms this. Without inherited networks or family business exposure, I had to construct credibility from nothing through results, persistence, and the willingness to show up. The data confirms that this experience is shared by many first-generation entrepreneurs: lacking the cultural capital that comes from family business exposure creates a measurable gap in perceived environmental support for entrepreneurial pursuits.

First-generation entrepreneurs must build credibility through mechanisms within their direct control satisfying customers who can provide testimonials, obtaining certifications that signal competence independently of social connections, and using digital platforms to establish professional presence rather than relying on inherited family reputation or established business networks. The relatively modest contribution of socio-cultural factors to the model (0.24% unique variance) suggests that while legitimacy matters, it may be less determinative of entrepreneurial satisfaction than psychological resources and support access.

A limitation of this finding warrants acknowledgment: the survey instrument captured the perceived importance of legitimacy and the perceived influence of cultural background on the entrepreneurial journey, rather than the specific legitimacy-building strategies themselves. The question of how first-generation entrepreneurs construct credibility through which specific mechanisms and in what sequence remains a process-level inquiry best suited to qualitative investigation in future research.

Research Question 3: In what ways do digital literacy and engagement with digital entrepreneurial ecosystems influence entrepreneurial persistence?

Digital skills produced strong bivariate correlations with entrepreneurial satisfaction ($r = .402, p < .001$) but did not contribute statistically significant unique variance in the integrated model when controlling for psychological and support factors ($\beta = 0.022, p = .499$, contributing only 0.02% unique variance). The sample showed near-universal digital engagement, with 96.3% of respondents using digital tools at least sometimes for business operations. Digital proficiency ratings were high ($M = 4.335, SD = 0.720$), with no significant differences between first-generation and non-first-generation entrepreneurs.

I conclude that digital skills operate indirectly through their effects on psychological confidence, support network access, and legitimacy-building capability rather than directly predicting entrepreneurial outcomes. With almost complete adoption across the sample, digital proficiency functions as enabling infrastructure — it gets entrepreneurs into the arena, but it does not determine who persists once they are there. That determination comes from psychological resources and the support systems surrounding them.

For first-generation entrepreneurs who do not have family resources, business exposure, or built-in communities to lean on, this finding carries a specific implication. Digital competencies and participation in online communities can enhance existing resources and address gaps in individuals' formative experiences. In that sense, digital proficiency can subsidize missing familial capital and that is extremely important. But it is the mindset and the community, not the technology, that ultimately keep someone in the game.

Research Question 4: What is the relationship between mentorship access, peer network engagement, and entrepreneurial satisfaction among first-generation entrepreneurs?

Support systems emerged as the second-strongest predictor of entrepreneurial satisfaction ($\beta = 0.225$, $p < .001$), contributing 3.04% unique variance in the integrated model. First-generation entrepreneurs are significantly less likely to receive mentorship (74.4%) compared to their non-first-generation counterparts (84.0%), representing a 9.7 percentage point gap ($\chi^2 = 19.49$, $p < .001$, Cramér's $V = 0.117$). They also rated mentorship importance significantly lower ($M = 4.104$ vs. $M = 4.272$), $t = -3.42$, $p < .001$, $d = -0.18$.

I conclude that first-generation entrepreneurs face a systematic mentorship gap that represents one of the most actionable findings of this research. As discussed in Section 5.3.5, this gap is not simply about access, it is compounded by a self-reliance mindset that leads first-generation entrepreneurs to undervalue the very support they need most. The practical implication is clear: support programs cannot wait for first-generation entrepreneurs to seek mentorship. They must meet them where they are, disrupt the isolation cycle, and show the value of community before these entrepreneurs have a frame of reference for what mentorship can provide.

Research Question 5: How do psychological traits, digital skills, and external support systems interact to drive entrepreneurial persistence?

As established in Section 5.3.6, the integrated model explains 30.5% of variance in entrepreneurial satisfaction ($R^2 = 0.305$), with psychological traits and support systems emerging as the dominant predictors. I conclude that entrepreneurial persistence among first-generation entrepreneurs rests on the three pillars of the FGEP Framework: mindset, tools, and community. The regression confirms that first-generation status did not directly predict satisfaction when controlling for these factors. The practical implication is profound: entrepreneurial identity itself can be engineered from the beginning through the right mix of mindset, tools, and community.

5.4.2 Overall Conclusions

This research set out to answer a fundamental question that has both scholarly and deeply personal dimensions: What characteristics enable first-generation entrepreneurs to transition from entrepreneurial aspiration to action and persist through the critical early stages of their ventures in the digital age? Based on the analysis of 1,439 entrepreneurs, including 749 first-generation entrepreneurs and 358 first-generation Generation Z individuals, I offer the following overall conclusions.

Structural obstacles, not a lack of innate ability or drive, are the primary cause of the aspiration-action gap experienced by first-generation entrepreneurs. First-generation entrepreneurs possess comparable psychological capabilities to their non-first-generation counterparts. What differentiates their experience is reduced access to mentorship, networks, and the cultural capital that comes from family business exposure. This conclusion fundamentally reframes how we should think about supporting this population not by attempting to fix perceived psychological shortcomings, but by addressing the structural barriers that impede their progress.

Second, psychological traits, particularly self-efficacy, represent the most consequential factor in entrepreneurial persistence. These psychological resources validated by the regression as the dominant predictor are not fixed traits. They can be cultivated through intentional effort, targeted programming, and the accumulation of small wins that compound into the self-efficacy the data identifies as central. The path to entrepreneurial success is not singular. There are multiple pathways that combine skill sets, psychological traits, and desire in different proportions.

Third, digital competence serves as an equalizing factor that can subsidize missing familial capital. While digital skills do not directly predict entrepreneurial satisfaction, they enable access to resources, networks, and opportunities that were previously available only to those with inherited connections. Technology is subsidizing some of the hard work and grit that used to be required to succeed as an entrepreneur. Learning digital skill sets builds confidence. It builds self-efficacy. And it often creates access to online networks that make it easier to start a venture and persist through the early stages.

Fourth, the mentorship gap represents the most actionable finding with the most immediate implications for intervention design. First-generation entrepreneurs need mentorship more but receive it less. Closing this gap through intentional programming, digital mentorship platforms, and community-building initiatives could have substantial positive effects on persistence rates among this population.

Finally, I conclude that entrepreneurial identity can be engineered from zero. For the 54% of Generation Z who aspire to entrepreneurship and the millions of first-generation entrepreneurs who dream of building something meaningful, these findings offer both validation and direction: the psychological resources necessary for persistence can be developed, the support systems can be accessed with intentionality, and the digital tools can be mastered to multiply whatever resources you already possess. The numbers tell the story. The FGEP Framework — mindset, tools, community — provides the structure for reading that story. But behind the numbers is also who I decide to be throughout this process. My desire is that these conclusions provide a roadmap for others who share this calling.

5.5 Theoretical Contributions

The findings reported here make several significant theoretical contributions that advance scholarly understanding of first-generation entrepreneurship, digital entrepreneurial ecosystems, and the psychological dimensions of venture persistence.

5.5.1 Contributions to Entrepreneurship Literature

This study contributes to the entrepreneurship literature by establishing empirical evidence for the relative importance of psychological, digital, and support factors in predicting entrepreneurial outcomes among first-generation entrepreneurs. While previous research has examined these factors independently (Salisu et al., 2020; Newman et al., 2021; Patriak, 2023), this study provides the first integrated analysis demonstrating their relative contributions within a single model.

The finding that psychological traits contribute 5.27% unique variance while digital skills contribute only 0.02% non-significant variance challenges prevailing narratives about the centrality of digital competence in modern entrepreneurship. With near-universal adoption, digital skills have become a baseline requirement for participation in modern entrepreneurship rather than a differentiating factor in outcomes. What differentiates them is their psychological makeup and support systems.

This research also contributes to the concept of the Grit Subsidy, the proposition that digital proficiency allows first-generation entrepreneurs to achieve equivalent success with different resource configurations by using digital ecosystems to bridge inherited social capital gaps. Gen Z entrepreneurs, who demonstrated lower psychological trait scores than Millennials ($d = -0.22$), reported equivalent satisfaction levels, suggesting that digital tools may compensate for traditional grit in certain contexts. It is important to acknowledge that this Grit Subsidy

proposition is a theoretical derivation based on the pattern of findings rather than a directly tested mechanism. The moderation analysis reported in Section 4.10.4 (Table 4.35) tested whether the four predictors operate differently for first-generation entrepreneurs and confirmed that psychological traits do ($FG \times \text{Psychological Traits}$, $p = .003$); it did not test the Grit Subsidy itself, which posits that digital proficiency substitutes for grit. Future research should test this specific mechanism through a digital-by-grit interaction or a mediation model in which digital skills operate through psychological confidence, an approach I address further in Section 5.8.

5.5.2 Extension of Digital Entrepreneurial Ecosystem Theory

This research extends the Digital Entrepreneurial Ecosystem (DEE) framework developed by Sussan and Acs (2017) by adding a psychological layer that accounts for the internal barriers faced by people who did not grow up in business-oriented families. The Sussan and Acs (2017) framework does an excellent job of explaining infrastructure, policy, marketplaces, and environment. But it treats entrepreneurs as digital citizens without really accounting for the internal barriers faced by first-generation entrepreneurs.

My contribution adds a psychological layer to that framework. It suggests that mental stamina continues to be the mechanism that allows the digital infrastructure to actually move. The DEE framework positions digital ecosystems as enabling environments that create global access points for resources and mentorship. The current research empirically validates this positioning while demonstrating that the psychological capacity to use these resources is the primary determinant of entrepreneurial outcomes.

The finding that digital skills operate indirectly through psychological confidence rather than as direct predictors provides theoretical clarity about the mechanism through which digital

ecosystems influence entrepreneurial success. Digital tools build self-efficacy by enabling competence, creating access to networks, and providing platforms for legitimacy-building. The effect is mediated rather than direct a distinction that previous theoretical frameworks have not adequately articulated.

5.5.3 Development of the Interdisciplinary Framework

The primary theoretical contribution of this research is the development of an interdisciplinary framework, the First-Generation Entrepreneurial Persistence Framework, that integrates psychological traits, digital competencies, and support systems into an integrated model of first-generation persistence in entrepreneurs. The First-Generation Entrepreneurial Persistence Framework addresses the absence of integrated models that explain how these factors interact to enable or constrain the transition from entrepreneurial aspiration to action.

The First-Generation Entrepreneurial Persistence Framework theorizes that entrepreneurial persistence sits on three interconnected pillars: mindset (psychological traits contributing 5.27% unique variance), community (support systems contributing 3.04% unique variance), and tools (digital skills serving as enabling infrastructure that operates indirectly through confidence and access). Together, these pillars explain 30.5% of variance in entrepreneurial satisfaction, exceeding Cohen's (1988) threshold for a large effect in behavioral research.

This framework also incorporates the legitimacy-building scholarship of Karlsson and Williams-Middleton (2015) as a pathway through which entrepreneurs convert psychological resources and network connections into market-recognized credibility. Socio-cultural factors,

while contributing more modestly to outcomes (0.24% unique variance), operate as the mechanism through which internal capabilities translate into external recognition.

The First-Generation Entrepreneurial Persistence Framework's value lies in its integrative capacity it brings together previously siloed literatures on entrepreneurial psychology, digital ecosystems, and social capital into a unified model with clear empirical support. My study establishes an interdisciplinary framework that explains how entrepreneurial satisfaction and success are achieved by integrating psychological traits, digital competencies, and support systems. But my primary theoretical contribution is the discovery that for first-generation entrepreneurs, digital proficiency acts as a Grit Subsidy allowing them to achieve equivalent success with lower traditional grit scores by using digital ecosystems to bridge inherited social capital gaps.

5.6 Practical Implications and Recommendations

The findings of this research have substantial practical implications for multiple stakeholder groups invested in supporting entrepreneurial development. This section translates the empirical findings into actionable recommendations for first-generation entrepreneurs, support programs and accelerators, educational institutions, policymakers, and industry innovators.

5.6.1 For First-Generation Entrepreneurs

The data speaks directly to those who are walking the same path I walked. You possess the same psychological capabilities as entrepreneurs who grew up in business families. The challenges you face are not about who you are, they are about what you have access to. That distinction matters.

Prioritize developing the mind. The psychological traits like grit and self-efficacy emerged as the strongest predictors of satisfaction and success. Psychological resilience, especially when it comes to managing mental stress, has a lot to do with perspective, focus, and the meaning we assign to what we are experiencing. It also has a lot to do with recognizing our habitual patterns of thought and understanding that those patterns are not who we are. They are just habits. And habits can be changed.

Overemphasize your network value. Find entrepreneurial communities. Find people who are doing what you want to do, people who have already been there. Surround yourself with a strong community of entrepreneurs and entrepreneurially minded people who are committed to their purpose, their calling, and their work. That kind of community adds massive value to the journey. It speeds up progress, accelerates growth, and opens doors you cannot open on your own.

Master digital tools not as an end in themselves but as a means to build confidence and access opportunities. Once someone has the skills, they are able to step into the entrepreneurial identity with confidence. That belief changes how they show up, how they take action, and how they persist. When someone believes they are an entrepreneur and feel capable of providing value, that becomes a real equalizer, and it strengthens the self-efficacy needed to keep going. In the first-generation focal model, psychological traits are the single strongest predictor of satisfaction ($\beta = 0.424$), a markedly larger effect than in the non-first-generation model (Section 4.10.4), which is the clearest empirical justification for placing mindset first.

5.6.2 For Support Programs and Accelerators

Support programs should reorient their curricula to reflect the empirical hierarchy of influence revealed by my investigation and operationalized in the FGEP Framework.

Psychological skill-building should receive primacy over technical training. The data shows that while 96.3% of entrepreneurs use digital tools, the difference in outcomes lies in psychological resources and support access. Programs that focus primarily on technical skills while neglecting psychological development are addressing the less consequential factors.

Accelerators should implement structured mentorship matching with explicit attention to first-generation status. The 9.7 percentage point gap in mentorship access between first-generation and non-first-generation entrepreneurs (74.4% versus 84.0%) represents a systematic disadvantage that support programs are well-positioned to address. Formal mentorship programs that intentionally pair first-generation entrepreneurs with experienced mentors can close this gap.

Programs should also address the mentorship importance paradox. First-generation entrepreneurs rate mentorship as less important not because it is not valuable, but because they are not accustomed to receiving help, support, or guidance. Effective programming should actively cultivate appreciation for mentorship value among first-generation participants through early positive mentorship experiences that demonstrate the benefits firsthand. Support systems are the second strongest predictor for first-generation entrepreneurs ($\beta = 0.244$), which is why programs should pair structured mentorship with psychological development rather than technical training alone.

5.6.3 For Educational Institutions

Educational institutions should integrate psychological skill development into entrepreneurship curricula. Aly, Audretsch and Grimm (2021) argued that emotional skills,

including resilience and adaptability, can be cultivated through targeted educational initiatives. The current findings support this developmental perspective: if self-efficacy represents the most consequential psychological capability for first-generation entrepreneurs, and if this capability can be developed rather than being a fixed trait, then educational programs have a clear target for skill-building efforts.

Universities should create entrepreneurship courses in particular designed for first-generation students that acknowledge their unique starting point. These courses should emphasize that lacking family business exposure is a structural disadvantage, not a personal deficit, and should provide explicit training in the legitimacy-building strategies that first-generation entrepreneurs must master independently.

Business schools should also expand access to entrepreneurial communities and peer networks. The finding that support systems contribute 3.04% unique variance more than socio-cultural factors and digital skills combined suggests that network-building opportunities may be more valuable than many traditional curricular elements. We need better entrepreneurial education that prepares early-stage founders for what is coming. They need to understand that there are additional skills psychological, emotional, and mindset-related that must be developed to survive and succeed long term.

5.6.4 For Policymakers

Policymakers should prioritize funding for mentorship infrastructure over digital access initiatives. While digital equity remains important, the finding that digital skills contribute negligible unique variance while support systems contribute 3.04% suggests that mentorship

access has a larger marginal impact on entrepreneurial outcomes than digital access at current levels of digital penetration.

Policy initiatives should target the specific barriers identified by first-generation Generation Z entrepreneurs: lack of funding, limited networks, and lack of knowledge. These barriers are all resource-related rather than motivation-related, indicating that resource provision programs, particularly those that facilitate network formation and knowledge transfer, address the most consequential gaps.

Economic development agencies should consider entrepreneurship support as a pathway to economic mobility for populations without inherited business capital. The finding that first-generation status does not directly predict satisfaction when controlling for psychological traits and support access suggests that targeted support can enable first-generation entrepreneurs to achieve outcomes comparable to their more privileged counterparts.

5.6.5 For Industry Innovators

The findings of this research point toward specific opportunities for technology innovators seeking to support entrepreneurial development. There is a clear mentorship gap. Many first-generation entrepreneurs do not have access to experienced mentors through family, networks, or geography. AI-powered mentorship platforms could address this gap by providing on-demand guidance, feedback, and accountability when human mentors are not accessible.

Community-building tools that facilitate connection among first-generation entrepreneurs represent another innovative opportunity. The data shows that peer network helpfulness demonstrates significant positive correlations with entrepreneurial outcomes. Platforms that

intentionally connect first-generation entrepreneurs with one another can create the community support that this population lacks by default.

Digital literacy platforms should be designed with psychological skill-building as an explicit secondary objective. The finding that digital skills operate indirectly through confidence suggests that effective digital training programs should emphasize not just technical competence but the self-efficacy that comes from mastering new capabilities. This is the insight driving my own work; building an early-stage platform I wish I had when I started, an AI-powered launchpad for early-stage entrepreneurs who feel called to create something meaningful but do not know where to begin.

5.7 Limitations

Every piece of research has limitations and acknowledging them honestly is essential for proper interpretation of findings and for guiding future research. Some of the most significant limitations of my study show up pretty clearly.

5.7.1 Sample and Generalizability Limitations

The first limitation is the survey sample itself. About 1,439 respondents is a solid number, but the majority (73.6%) were U.S.-based. That means there is a large global population we did not capture, and the data could look different in other regions of the world. The U.S.-centric nature of the sample definitely shapes the conclusions. I am aware of that. I am also aware of my own bias I am a first-generation entrepreneur born and raised in the United States.

Even though I have traveled to more than 40 countries and worked with entrepreneurs around the world, the data itself is largely U.S.-based, and my lived experience is primarily U.S.-based. That means there are cultural contexts I may not be fully seeing or accounting for. That

said, I do believe the internal entrepreneurial experience has many universal elements. Fear, doubt, confidence, aspiration, and dreams are part of human nature, regardless of country or culture. At the same time, the external environment matters, and external environments vary significantly across national and cultural contexts.

5.7.2 Sampling Method Limitations

Another major limitation is how the survey was promoted and how respondents were recruited. All 1,439 respondents were recruited through targeted advertising on Meta platforms (Facebook and Instagram). I used my marketing background to design and deploy these campaigns, targeting people aged 18–44 with demonstrated interest in entrepreneurship and business. A \$10 Visa Gift Card incentive was offered for survey completion. That approach created inherent filters. People who did not identify with the ad copy or visuals, people who are not active on Meta platforms, or people who do not click on ads were never exposed to the survey at all.

Because of that, the sample was not random. It was a targeted group that already had some level of interest in business or entrepreneurship. People who were already entrepreneurs or already thinking about entrepreneurship were more likely to click through and participate. That clearly affects generalizability. The sample may over-represent digitally engaged, entrepreneurially inclined individuals while under-representing those who might benefit most from entrepreneurial support but are not yet actively engaged with entrepreneurial content online.

5.7.3 Self-Report and Measurement Limitations

All data in this study were collected through self-report measures, introducing potential social desirability bias and common method variance. Respondents may have overestimated their psychological traits, digital capabilities, or entrepreneurial satisfaction. While the use of validated scales and multiple indicators provides some protection against these biases, objective measures of entrepreneurial outcomes (such as revenue, employee counts, or venture survival) would strengthen future research.

The survey instrument itself has limitations. The 39 items captured specific constructs, but there are dimensions of the entrepreneurial experience the questions did not reach. Some of the language used could have been interpreted differently depending on the respondent's background, experiences, or cultural context. Certain words may carry different associations or biases for different people.

Additionally, because all predictor and outcome variables were collected via the same self-report survey instrument at a single point in time, the results may be susceptible to common method variance (CMV) the inflation of observed relationships due to shared method rather than true construct covariance (Podsakoff et al., 2003). The high inter-construct correlations observed in this study (ranging from $r = .528$ to $r = .645$ among the four predictor composites) may partly reflect this shared-method effect. While procedural remedies were employed, including the use of validated scale items and the separation of predictor and outcome variables across different survey sections, no statistical post-hoc correction (such as Harman's single-factor test or a common latent factor analysis) was applied. Future research should consider multi-method designs, behavioral outcome measures, or longitudinal data collection to disentangle method effects from substantive relationships.

5.7.4 Cross-Sectional Design Limitations

This study employed a cross-sectional design, capturing a snapshot of entrepreneurial experience at a single point in time. My study captured people of different ages, different stages, and different points in their lives. But traits like self-efficacy and grit are not static. They develop over time through experience.

There are periods where self-efficacy is high and periods where it is lower. Times when grit shows up strongly and times when it does not. And there are many factors that influence that. Is the business aligned with someone's values, purpose, or calling? Is it something they actually care about, or are they doing it just for money? Is it an area where they now have experience, or is it something completely new? What else is happening in their life at the same time? All of that affects self-efficacy and grit at any given moment.

The cross-sectional design cannot establish causal relationships. While the regression analysis establishes that psychological traits predict entrepreneurial satisfaction, we cannot determine whether psychological traits cause satisfaction or whether successful entrepreneurial experiences build psychological resilience. Longitudinal research tracking the same entrepreneurs over time is needed to establish causal directionality.

Taken together, limitations around geography, sampling method, and survey design all affect how broadly the findings can be applied. At the same time, those limitations also create opportunities for future research to expand into different regions, use different recruitment methods, ask different questions, and see whether similar patterns emerge or whether the results change.

5.8 Future Research Recommendations

The limitations of this study, combined with the questions that remain unanswered, point toward several productive directions for future research.

5.8.1 Longitudinal Research

I believe longitudinal studies that track entrepreneurial trait development over time are necessary, especially when looking at those who actually achieve success. And by success, I mean building a sustainable business one where the entrepreneur who had the idea, the vision, and the aspiration is able to comfortably support their family financially and continue building the business long term.

A longitudinal study could help answer some really important questions. One is what I call trait erosion. Does the lower grit reported by Gen Z entrepreneurs increase over time as they face more obstacles at later venture stages? Early on, digital skills may boost confidence and make it easier to get started. But as the business grows and new hurdles appear, how does lower grit show up? Does it strengthen over time, or does it become a limiting factor later on? Or is this a permanent shift in how entrepreneurs work?

Another question is about persistence decay. At what point in the early stages does the lack of a formal support system (mentorship, community, guidance) become a serious risk for first-generation entrepreneurs? Is there a specific window where not having that support is most dangerous? Or does there come a point where it matters less?

There is also the question of confidence versus competence. Does high digital self-efficacy at the aspiration stage actually translate into better financial outcomes five years later? Does it lead to long-term success, or is it simply an early indicator that still needs to be

developed and reinforced over time? Those are the kinds of questions that only longitudinal research can really answer.

5.8.2 Qualitative and Mixed-Methods Research

Coming from an engineering background, I chose a quantitative approach deliberately. I looked at the data objectively and calculated what the data was telling me. A quantitative approach helped remove personal bias that could have shown up in a qualitative study or in interpreting conversations with entrepreneurs. However, future research would benefit from qualitative approaches that can capture the richness and complexity of the first-generation entrepreneurial experience.

Qualitative research could explore the mechanisms through which psychological traits translate into entrepreneurial action. How do first-generation entrepreneurs actually develop self-efficacy? What specific experiences build grit? How do they work through the legitimacy challenges they face? These process questions are difficult to address through survey research alone.

Mixed-methods research combining quantitative breadth with qualitative depth would add significant depth to these findings. Such studies could use the quantitative findings as a foundation while exploring the lived experience of first-generation entrepreneurs through interviews, ethnography, or case study methods. Future research could also extend these findings using structural equation modeling, which estimates an entire system of relationships at once, including the indirect paths among predictors rather than their direct effects alone. A multi-group structural equation model would offer a more formal test of whether the structural paths differ between first-generation and non-first-generation entrepreneurs, building on the subgroup

regressions reported in Section 4.10.4. The present dataset supports this extension, and it is a direction I intend to pursue.

5.8.3 Cross-Cultural and Contextual Research

To really test the boundaries of my integrated framework, researchers should look beyond a U.S.-centric digital environment. One important area would be developing economies that have leapfrogged traditional technology. In some regions, people move straight to mobile devices and AI without ever using desktop infrastructure. In those contexts, does digital literacy still operate indirectly through confidence and self-efficacy, or does it become a more direct driver of success? That is an open question.

Another area worth exploring is low-tech or more physical industries. My research focused on environments where digital tools are already deeply integrated. But what about first-generation founders in manufacturing, agriculture, or other hands-on industries? Can digital tools still subsidize grit in those contexts? What actually helps early-stage or first-generation entrepreneurs persist in industries that are not primarily digital?

A third area is intersectional disadvantage. Future studies should look in particular at first-generation entrepreneurs who also belong to marginalized racial or socioeconomic groups. In those cases, do we still see the same patterns that showed up in my study? Or do higher external and systemic risks change that dynamic? Looking at these populations and contexts would help clarify where the framework holds, where it stretches, and where it might need to be adapted.

5.8.4 Intervention Effectiveness Research

The practical implications outlined in this research suggest specific intervention strategies, but their effectiveness remains to be tested. Future research should examine whether psychological skill-building interventions actually improve entrepreneurial outcomes for first-generation entrepreneurs. Do mentorship programs that explicitly target first-generation founders close the mentorship gap? Do digital literacy programs that emphasize self-efficacy produce better outcomes than technically focused programs?

Randomized controlled trials or quasi-experimental designs comparing different intervention approaches would provide valuable evidence for program designers and policymakers. The current research provides theoretical justification for prioritizing psychological development and mentorship access, but empirical validation of specific intervention strategies is needed.

5.8.5 Questions Remaining for Future Investigation

There are several questions I wish the data could have addressed. I wonder whether there are additional psychological traits or internal forces I did not ask about that play a meaningful role in helping first-generation entrepreneurs move from aspiration to action. Are there other factors driving persistence that were not captured?

I also wish I had more insight into the motivations behind entrepreneurial aspiration itself. What is really driving it? Is it purpose? Calling? Financial security? Freedom? Independence? Some combination of those? Understanding those drivers more clearly could add another important layer to the research. One thing I did not cover in this research but care deeply about is the concept of purpose or calling. I believe there are people who are called to business people with a desire to make a positive impact, to create something meaningful, to bring value to

others. And there are others who pursue entrepreneurship primarily to make money and build wealth. Those are different paths, and I think they influence how someone handles stress, setbacks, and the long process of building a business.

Finally, there is the question of AI mentorship. At what point can AI-driven support systems (LLMs or other AI-powered platforms) functionally replace human mentors for first-time or first-generation entrepreneurs? What would an AI platform actually need to provide to bridge the mentorship gap? What level of guidance, context, feedback, and accountability would make AI mentorship viable when human mentors are not accessible? These questions are not just academic for me they are driving my current entrepreneurial ventures.

5.9 Final Summary

5.9.1 Concluding Remarks

This dissertation examined the characteristics that enable first-generation entrepreneurs to transition from aspiration to action and persist through the critical early stages of their ventures in the digital age. Through analysis of 1,439 entrepreneurs, including 749 first-generation entrepreneurs and 358 first-generation Generation Z individuals, the research revealed that psychological traits, particularly self-efficacy, represent the strongest predictor of entrepreneurial satisfaction ($\beta = 0.329$, 5.27% unique variance), followed by support systems including mentorship and peer networks ($\beta = 0.225$, 3.04% unique variance).

The research documented a significant mentorship gap, with first-generation entrepreneurs 9.7 percentage points less likely to receive mentorship than their non-first-generation counterparts (74.4% versus 84.0%, $\chi^2 = 19.49$, $p < .001$). Digital skills, while demonstrating strong bivariate correlations with satisfaction, did not contribute to significant

unique variance when controlling for psychological and support factors, suggesting they operate indirectly through confidence and access rather than as direct predictors.

The integrated model explained 30.5% of variance in entrepreneurial satisfaction ($R^2 = 0.305$), with psychological traits and support systems accounting for the vast majority of explanatory power. When controlling for other variables, first-generation status itself was not a direct predictor of satisfaction. This suggests that the challenges experienced by first-generation entrepreneurs are structural in nature, rooted in limited access to networks, mentorship, and cultural capital, rather than personal or dispositional.

5.9.2 Significance of the Research

This research contributes to entrepreneurship theory through the development of the FGEP Framework, which integrates psychological traits, digital competencies, and support systems into a coherent model of first-generation entrepreneurial persistence. The primary theoretical contribution is the theoretical proposition, supported by the pattern of findings, that for first-generation entrepreneurs, digital proficiency acts as a Grit Subsidy allowing them to achieve equivalent success with lower traditional grit scores by using digital ecosystems to bridge inherited social capital gaps.

The practical significance lies in the actionable findings: the identification of specific barriers facing first-generation entrepreneurs, the documentation of the mentorship gap, and the evidence that targeted interventions addressing psychological development and support access can enable first-generation entrepreneurs to achieve outcomes comparable to their more privileged counterparts.

5.9.3 Call to Action

I have a deep conviction that entrepreneurship is not just about making money or building wealth. Entrepreneurship is both a calling and a responsibility. It is risky but it is also rewarding. Entrepreneurs create jobs. They provide value. They serve customers. They gather resources, take risks, innovate, employ others, create economic activity, and move humanity forward. Not everyone is called to entrepreneurship, and that is acceptable. But for those who are, this research has something to offer.

For first-generation entrepreneurs: prioritize developing the mind, because psychological traits especially self-efficacy and grit, are the strongest predictors of satisfaction and persistence. Overemphasize the value of your network. Find entrepreneurial communities. Find people who are doing what you want to do, people who have already been there. Master digital tools not as an end but as a means to build confidence and access opportunities you did not inherit.

For support programs, educational institutions, and policymakers: the data points clearly toward interventions that prioritize psychological skill-building and mentorship access over technical training alone. The 9.7 percentage point mentorship gap documented in this research is real, measurable, and addressable. Closing it should be a priority. Programs must be proactive first-generation entrepreneurs will not seek mentorship if they have never experienced what mentorship can provide.

For the research community: I hope this work provides a framework for studying the aspiration-to-action gap in the digital age. The integrated model demonstrates that mindset, community, and tools interact in ways that existing theoretical frameworks have not fully captured. The questions that remain about purpose, about calling, about AI-powered mentorship are worth pursuing.

Everything I have lived as a first-generation entrepreneur — the struggles described in Chapter 1, the fifteen years of building, the slow accumulation of skill and community — led me to this analysis. This dissertation is not about prestige. It is about usefulness and effect. It is about helping first-generation entrepreneurs believe in their purpose, take action, persist, and create meaningful impact in the world.

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APPENDIX A

SURVEY INSTRUMENT

FROM ASPIRATION TO ACTION: UNDERSTANDING THE CHARACTERISTICS THAT ENABLE FIRST-GENERATION ENTREPRENEURS TO START AND NAVIGATE EARLY VENTURES IN THE DIGITAL AGE

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Note. The survey was administered online via Typeform. Items marked with an asterisk (*) were required. The instrument covered 39 items across six sections, plus an informed consent page and contact information fields. Response options are presented as they appeared to participants.

Informed Consent for Research Participation *

Purpose of the Study

This research explores the specific characteristics, psychological traits, and external factors that empower first-generation entrepreneurs, particularly those from Generation Z, to move from entrepreneurial aspiration to action and persist through the critical early stages of their ventures.

Participant Requirements

- Be born between 1981 and 1996 or between 1997 and 2012 (Millennial or Generation Z)
- Be a first-generation entrepreneur (no family business background)
- Have started at least one business venture
- Be at least 18 years old

Response Options:

- A) I accept
- B) I don't accept

Section 1: About You

This section collects basic information to understand who you are.

Q2. What is your generation based on your birth year? *

- A) Gen X (1965–1980)
- B) Millennials (1981–1996)
- C) Gen Z (1997–2012)
- D) Gen Alpha (2013–2025)

Q3. While growing up, did you have a close family member you spent time with regularly that owned a business? *

(e.g., parent, sibling, or aunt/uncle)

- Y) Yes
- N) No

Q4. Have you started at least one business venture? *

A business venture is a small business, startup, side hustle, side gig, etc.

- A) Yes, I am currently running a business
- B) Yes, in the process of starting
- C) No, but planning to
- D) No, not interested

Q5. What is your gender? *

- A) Male
- B) Female
- C) Prefer not to say

Q6. What is your highest level of education completed? *

- A) High school or less
- B) Some college
- C) Associate's degree
- D) Bachelor's degree
- E) Master's degree or higher

Q7. What is your current employment status? *

- A) Full-time entrepreneur
- B) Part-time entrepreneur
- C) Employed full-time
- D) Employed part-time
- E) Student
- F) Unemployed

Q8. In which region do you currently live? *

Where do you live most of the time?

- A) United States
- B) Canada
- C) Europe
- D) APAC – Asia Pacific
- E) Other

Section 2: Your Personal Characteristics

This section explores traits that influence your entrepreneurial journey.

Q9. I finish whatever I begin.

[5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree]

Q10. Setbacks don't discourage me.

[5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree]

Q11. I can handle stressful situations without getting too nervous.

[5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree]

Q12. Being an entrepreneur is an important part of who I am.

[5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree]

Q13. I spend a lot of time thinking about my business idea(s).

[5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree]

Q14. I am confident in my ability to succeed as an entrepreneur.

[5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree]

Section 3: Digital Tools and Technology

This section examines your use of technology in your current or planned business.

Q15. How often do you use digital tools for your current or planned business?

A digital tool is a software, application, or program designed to facilitate tasks or processes using digital technology.

A) Never

B) Rarely

- C) Sometimes
- D) Often
- E) Daily

Q16. How would you rate your proficiency with digital tools?

[5-point Likert scale: 1 = Not Proficient to 5 = Very Proficient]

Q17. Which digital tools do you use or plan to use for your business?

Select all that apply.

- A) Social Media: Instagram, Facebook, TikTok, etc.
- B) E-Commerce Platforms: Shopify, WooCommerce, Etsy, etc.
- C) AI Tools: ChatGPT, Jasper AI, Copy.ai, Midjourney, etc.
- D) Automation Software: Zapier, IFTTT, etc.
- E) Analytics Tools: Google Analytics, Facebook Business Manager, etc.
- F) None: (Not currently using any tools from the above categories)

Q18. How important are digital tools to your business success?

[5-point Likert scale: 1 = Not Important to 5 = Very Important]

Q19. Have you faced challenges accessing or using digital tools?

- Y) Yes
- N) No

Section 4: Trust and Cultural Factors

This section looks at credibility and cultural influences on your business.

Q20. How important is building trust and credibility for your current or planned business?

[5-point Likert scale: 1 = Not Important to 5 = Very Important]

Q21. My cultural background has positively influenced my entrepreneurial journey.

[5-point Likert scale: 1 = Strongly Disagree to 5 = Strongly Agree]

Q22. Have you faced challenges in building professional networks?

Y) Yes

N) No

Q23. Which strategies have you used or plan to use to build credibility?

Select all that apply.

A) Certifications

B) Partnerships

C) Media Coverage

D) Customer Testimonials

E) Awards

F) Press Releases

G) None

Q24. How effective is social media in building your business credibility?

[5-point Likert scale: 1 = Not Effective to 5 = Very Effective]

Section 5: Mentorship and Support

This section explores the guidance and help you've received or plan to seek.

Q25. Have you received mentorship for your current or planned business?

Y) Yes

N) No

Q26. If yes, was the mentorship formal or informal?

A) Formal

B) Informal

C) Both

D) Not applicable

Q27. How important is mentorship to your business success?

[5-point Likert scale: 1 = Not Important to 5 = Very Important]

Q28. Which support systems have you used or plan to use?

Select all that apply.

A) Incubators

B) Accelerators

C) Online Communities

D) Professional Networks

E) Family or Friends

F) None

Q29. How helpful are peer networks (other entrepreneurs) to you?

[5-point Likert scale: 1 = Not Helpful to 5 = Extremely Helpful]

Section 6: Barriers and Decision-Making

This section examines challenges and how you make business decisions.

Q30. Which barriers have you faced or expect to face in your business?

Select all that apply.

- A) Lack of Funding
- B) Lack of Knowledge
- C) Emotional Stress
- D) Limited Networks
- E) Time Constraints
- F) None

Q31. How significant is fear of failure in your decision-making?

[5-point Likert scale: 1 = Not Significant to 5 = Very Significant]

Q32. Did you delay or forgo college to pursue entrepreneurship?

- A) Yes
- B) No
- C) Not applicable (e.g., too young for college)

Q33. How do you typically evaluate risk when making business decisions?

- A) Calculate Carefully
- B) Go with Gut Feeling
- C) Seek Advice
- D) Avoid Risks

Q34. Which funding sources have you used or plan to use?

Select all that apply.

- A) Personal Savings
- B) Family or Friends

- C) Bank Loans
- D) Venture Capital
- E) Crowdfunding
- F) Grants
- G) None

Q35. What is your current monthly revenue range?

- A) \$0–\$5,000
- B) \$5,001–\$10,000
- C) \$10,001–\$50,000
- D) Over \$50,000
- E) Prefer Not to Say
- F) Not Applicable

Q36. How much has your revenue changed in the past year?

- A) Declined
- B) Stayed the Same
- C) Increased Slightly
- D) Increased Significantly
- E) Not Applicable (business too new)

Q37. Which milestones have you achieved in your business? *

Select all that apply.

- A) First Sale
- B) Consistent Revenue
- C) Profitability

D) Team Expansion

E) Market Expansion

F) None Yet

Q38. How satisfied are you with your entrepreneurial journey so far? *

[5-point Likert scale: 1 = Not Satisfied to 5 = Very Satisfied]

Contact Information (Optional)

Q39. Where should we send you the gift card and communicate with you on future updates of this study? *

First name

Last name

Email

APPENDIX B ANALYTICAL REPLICATION GUIDE

Reproducible Computational Workflow for All Statistical Analyses Reported in Chapters 4 and 5

FROM ASPIRATION TO ACTION: UNDERSTANDING THE CHARACTERISTICS THAT
ENABLE FIRST-GENERATION ENTREPRENEURS TO START AND NAVIGATE EARLY
VENTURES IN THE DIGITAL AGE

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PURPOSE AND SCOPE

This appendix provides the exact, reproducible computational workflow required to generate every statistic reported in Chapters 4 and 5 from the raw survey dataset (SSBM SURVEY RESEARCH NO CONTACT INFO.xlsx) using Python within the Google Colab environment. The analytical workflow leverages the pandas library for data structuring and SciPy for inferential testing, consistent with the methodology described in Chapter 3 (Creswell and Creswell, 2018; Field, 2018).

Coming from an engineering background, I designed this analytical workflow to let the data speak for itself. Every statistic every mean, standard deviation, t-value, p-value, effect size, correlation coefficient, regression weight, and chi-square value reported in this dissertation was independently calculated from the raw data using the procedures documented below. This guide ensures that any independent researcher can replicate these results exactly.

Critical note on data types: When pandas reads this Excel file, binary-coded variables (Q3, first-generation status; Q25, mentorship receipt) are imported as *float64* values (0.0 and 1.0), not as strings. All code in this guide accounts for this. Treating these as strings will cause analyses to fail silently with zero group assignments.

SECTION 1: ENVIRONMENT SETUP AND DATA LOADING

Navigate to <https://colab.research.google.com/> and create a new notebook. Google Colab provides a pre-configured Python environment with pandas and SciPy already installed. Upload the survey dataset and execute the following initialization code.

Note on variable naming: The Python variable `Q41_Satisfaction` refers to the satisfaction outcome measured by survey item Q38 (see Section 4.1.1); the numeral 41 indicates the column index at which Q38's responses reside in the Excel file after survey metadata columns.

Step 1.1: Upload and load data.

```

from google.colab import files

uploaded = files.upload()

import pandas as pd
import numpy as np
from scipy import stats
from numpy.linalg import inv

df = pd.read_excel('SSBM SURVEY RESEARCH NO CONTACT INFO.xlsx')
print(f'Total rows: {len(df)}')
print(f'Total columns: {len(df.columns)}')

```

Expected: n = 1,439 total rows and 49 columns.

Step 1.2: Assign standardized variable names.

The raw column headers are full survey question texts. Assign shorthand variable names corresponding to the survey item numbering used throughout the dissertation:

```

col_map = {
    df.columns[2]: 'Q2_Generation', df.columns[3]: 'Q3_FirstGen',
    df.columns[4]: 'Q4_StartedBusiness', df.columns[5]: 'Q5_Gender',
    df.columns[6]: 'Q6_Education', df.columns[7]: 'Q7_Employment',
    df.columns[8]: 'Q8_Region', df.columns[9]: 'Q9_Grit',
    df.columns[10]: 'Q10_Resilience', df.columns[11]: 'Q11_StressMgmt',
    df.columns[12]: 'Q12_EntIdentity', df.columns[13]: 'Q13_EntPassion',
    df.columns[14]: 'Q14_SelfEfficacy', df.columns[15]: 'Q15_DigitalFreq',
    df.columns[16]: 'Q16_DigitalProf', df.columns[18]: 'Q18_DigitalImportance',
    df.columns[20]: 'Q20_TrustCredibility',
    df.columns[21]: 'Q21_CulturalInfluence',
    df.columns[24]: 'Q24_SocialMediaEffect',

```

```

df.columns[25]: 'Q25_MentorshipReceived',
df.columns[27]: 'Q27_MentorshipImportance',
df.columns[29]: 'Q29_PeerNetworks',
df.columns[41]: 'Q41_Satisfaction',
}
df.rename(columns=col_map, inplace=True)

```

Step 1.3: Encode first-generation status and generational cohort variables.

The first-generation variable (Q3) is coded as numeric float values: 0.0 indicates no close family member owned a business (first-generation) and 1.0 indicates family business background (non-first-generation).

```

# CRITICAL: Q3 is float64 (0.0 and 1.0), NOT strings
df['FirstGen_Status'] = df['Q3_FirstGen'].map({
    0.0: 'First-Generation', 1.0: 'Non-First-Generation'})
print(df['FirstGen_Status'].value_counts())

df['GenCohort'] = df['Q2_Generation'].map({
    'Gen Z (1997-2012)': 'Gen Z',
    'Millennials (1981-1996)': 'Millennial'})

```

Expected: First-Generation = 749 (52.1%), Non-First-Generation = 682 (47.4%), Missing = 8 (0.6%). Gen Z = 720, Millennials = 709.

Step 1.4: Define scale groupings and construct composite scores.

Composite scores represent the mean of constituent Likert-scale items for each construct (Hair et al., 2019):

```

psych_cols = ['Q9_Grit', 'Q10_Resilience', 'Q11_StressMgmt',
              'Q12_EntIdentity', 'Q13_EntPassion', 'Q14_SelfEfficacy']
digital_cols = ['Q16_DigitalProf', 'Q18_DigitalImportance',
                'Q24_SocialMediaEffect']
socio_cols = ['Q20_TrustCredibility', 'Q21_CulturalInfluence']

```

```
support_cols = ['Q27_MentorshipImportance', 'Q29_PeerNetworks']
```

```
for col in psych_cols + digital_cols + socio_cols + support_cols \
    + ['Q41_Satisfaction']:
```

```
    df[col] = pd.to_numeric(df[col], errors='coerce')
```

```
df['Psych_Composite'] = df[psych_cols].mean(axis=1)
```

```
df['Digital_Composite'] = df[digital_cols].mean(axis=1)
```

```
df['Socio_Composite'] = df[socio_cols].mean(axis=1)
```

```
df['Support_Composite'] = df[support_cols].mean(axis=1)
```

```
# Create analysis subsets AFTER composites are built
```

```
fg = df[df['FirstGen_Status'] == 'First-Generation']
```

```
nfg = df[df['FirstGen_Status'] == 'Non-First-Generation']
```

```
genz = df[df['GenCohort'] == 'Gen Z']
```

```
mill = df[df['GenCohort'] == 'Millennial']
```

Expected: Psych n = 1,430, M = 4.210, SD = 0.596; Digital n = 1,431, M = 4.329, SD = 0.597; Socio n = 1,431, M = 4.242, SD = 0.661; Support n = 1,430, M = 4.190, SD = 0.750.

SECTION 2: RELIABILITY ANALYSIS

Step 2.1: Cronbach's alpha for each scale.

```
def cronbachs_alpha(df_items):
```

```
    df_clean = df_items.dropna()
```

```
    n_items = df_clean.shape[1]
```

```
    item_variances = df_clean.var(axis=0, ddof=1)
```

```
    total_variance = df_clean.sum(axis=1).var(ddof=1)
```

```
    alpha = (n_items / (n_items - 1)) * \
```

```
        (1 - item_variances.sum() / total_variance)
```

```
    return alpha
```

```

print(f'Psychological Traits: {cronbachs_alpha(df[psych_cols]):.3f}')
print(f'Digital Skills: {cronbachs_alpha(df[digital_cols]):.3f}')
print(f'Support Systems: {cronbachs_alpha(df[support_cols]):.3f}')
print(f'Socio-Cultural: {cronbachs_alpha(df[socio_cols]):.3f}')

```

Expected: Psychological = 0.769; Digital = 0.724; Support = 0.614; Socio-Cultural = 0.338.

Step 2.2: Item-total correlations for the Psychological Traits scale.

```

psych_df = df[psych_cols].dropna()
total_score = psych_df.sum(axis=1)
for col in psych_cols:
    corrected_total = total_score - psych_df[col]
    r = psych_df[col].corr(corrected_total)
    print(f'{col}: r = {r:.3f}')

```

Expected: Q14 Self-Efficacy highest (r = 0.603), Q9 Grit (r = 0.536), Q11 Stress Mgmt lowest (r = 0.442).

SECTION 3: OBJECTIVE 1 PSYCHOLOGICAL TRAITS AND MOTIVATIONAL DRIVERS

Step 3.1: Group comparison helper function.

The following function is used throughout Sections 3–6 for independent-samples t-tests with Cohen's d:

```

def compare_groups(g1, g2, col):
    d1, d2 = g1[col].dropna(), g2[col].dropna()
    t, p = stats.ttest_ind(d1, d2)
    pooled = np.sqrt(((len(d1)-1)*d1.std()**2 +
                      (len(d2)-1)*d2.std()**2) / (len(d1)+len(d2)-2))
    d = (d1.mean() - d2.mean()) / pooled
    return d1.mean(), d2.mean(), t, p, d

```

Step 3.2: First-generation vs. non-first-generation t-tests (Table 4.16).

```

for col in psych_cols + ['Psych_Composite']:
    m1, m2, t, p, d = compare_groups(fg, nfg, col)
    sig = 'SIG' if p < 0.05 else 'ns'
    print(f'{col}: FG M={m1:.3f}, NFG M={m2:.3f}, '
          f't={t:.2f}, p={p:.3f}, d={d:.2f} [{sig}]')

```

Expected: No significant differences on any trait (all $p > .05$, all $d < 0.10$).

Step 3.3: Generational comparisons (Table 4.17).

```

for col in psych_cols + ['Psych_Composite']:
    m1, m2, t, p, d = compare_groups(genz, mill, col)
    print(f'{col}: GenZ M={m1:.3f}, Mill M={m2:.3f}, '
          f't={t:.2f}, p={p:.4f}, d={d:.2f}')

```

Expected: Significant differences across all traits, Millennials higher. Composite $d = -0.22$, $p < .001$.

SECTION 4: OBJECTIVE 2 SOCIO-CULTURAL INFLUENCES AND LEGITIMACY-BUILDING

Step 4.1: Cultural background influence gap (Table 4.20).

```

m1, m2, t, p, d = compare_groups(fg, nfg, 'Q21_CulturalInfluence')
print(f'First-Gen: M={m1:.3f}')
print(f'Non-First-Gen: M={m2:.3f}')
print(f't={t:.2f}, p={p:.4f}, d={d:.2f}')

```

Expected: First-Gen $M = 4.003$, Non-First-Gen $M = 4.189$, $p < .001$, $d = -0.20$.

SECTION 5: OBJECTIVE 3 DIGITAL SKILLS AND ENTREPRENEURIAL ECOSYSTEMS

Step 5.1: Digital tool usage frequency (Table 4.22).

```

freq_counts = df['Q15_DigitalFreq'].value_counts()
total_freq = freq_counts.sum()
for val, count in freq_counts.items():

```

```

print(f'{val}: {count} ({count/total_freq*100:.1f}%)')
at_least = (freq_counts.get('Daily',0) + freq_counts.get('Often',0)
            + freq_counts.get('Sometimes',0))
print(f'At least sometimes: {at_least/total_freq*100:.1f}%)')

```

Expected: 96.3% use digital tools at least sometimes.

Step 5.2: Digital skills by first-generation status (Table 4.23).

```

for col in digital_cols + ['Digital_Composite']:
    m1, m2, t, p, d = compare_groups(fg, nfg, col)
    sig = 'SIG' if p < 0.05 else 'ns'
    print(f'{col}: FG M={m1:.3f}, NFG M={m2:.3f}, '
          f't={t:.2f}, p={p:.3f}, d={d:.2f} [{sig}]')

```

Expected: Only Social Media Effectiveness (Q24) is significant: $t = -2.03$, $p = .043$, $d = -0.11$.

SECTION 6: OBJECTIVE 4 MENTORSHIP, PEER NETWORKS, AND COMMUNITY SUPPORT

Step 6.1: Mentorship gap chi-square analysis (Table 4.25).

This analysis produces one of the most important findings in the entire study:

```

# CRITICAL: Q25 is float64 (0.0 and 1.0), NOT strings
fg_received = (fg['Q25_MentorshipReceived'] == 1.0).sum()
fg_total = fg['Q25_MentorshipReceived'].notna().sum()
nfg_received = (nfg['Q25_MentorshipReceived'] == 1.0).sum()
nfg_total = nfg['Q25_MentorshipReceived'].notna().sum()
print(f'First-Gen: {fg_received}/{fg_total} '
      f'f({fg_received/fg_total*100:.1f}%)')
print(f'Non-First-Gen: {nfg_received}/{nfg_total} '
      f'f({nfg_received/nfg_total*100:.1f}%)')
print(f'Gap: {nfg_received/nfg_total*100 - fg_received/fg_total*100:.1f} pp')

```

```

mask = df['FirstGen_Status'].notna() & df['Q25_MentorshipReceived'].notna()
contingency = pd.crosstab(
    df.loc[mask, 'FirstGen_Status'],
    df.loc[mask, 'Q25_MentorshipReceived'])
chi2, p, dof, expected = stats.chi2_contingency(contingency)
n_chi = contingency.sum().sum()
cramers_v = np.sqrt(chi2 / n_chi)
print(f'Chi2={chi2:.2f}, df={dof}, p={p:.6f}, Cramers V={cramers_v:.3f}')

```

Expected: First-Gen 557/749 (74.4%), Non-First-Gen 569/677 (84.0%), Gap = 9.7 pp, $\chi^2 = 19.49$, $df = 1$, $p < .001$, Cramér's $V = 0.117$. Note: NFG total is 677 (not 682) because 5 non-first-generation respondents have missing Q25 data.

Step 6.2: Mentorship importance comparison.

```

m1, m2, t, p, d = compare_groups(fg, nfg, 'Q27_MentorshipImportance')
print(f'FG: M={m1:.3f}, NFG: M={m2:.3f}, t={t:.2f}, p={p:.4f}, d={d:.2f}')

```

Expected: First-Gen $M = 4.104$, Non-First-Gen $M = 4.272$, $t = -3.42$, $p < .001$, $d = -0.18$.

SECTION 7: OBJECTIVE 5 INTERDISCIPLINARY FRAMEWORK INTEGRATION

This section produces the culminating multiple regression analysis the analytical heart of the dissertation.

Step 7.1: Construct-level correlation matrix (Table 4.27).

Correlations use pairwise deletion (maximum available n per variable pair), consistent with standard practice:

```

comp_names = ['Psych_Composite', 'Digital_Composite',
              'Socio_Composite', 'Support_Composite',
              'Q41_Satisfaction']
labels = ['Psych', 'Digital', 'Socio', 'Support', 'Satisfaction']
for i in range(len(comp_names)):
    for j in range(i+1, len(comp_names)):

```

```

mask = df[comp_names[i]].notna() & df[comp_names[j]].notna()
r, p = stats.pearsonr(df.loc[mask, comp_names[i]],
                     df.loc[mask, comp_names[j]])
print(f'{labels[i]}-{labels[j]}: r={r:.3f}')

```

Expected: Psych–Satisfaction $r = .509$; Digital–Satisfaction $r = .402$; Socio–Satisfaction $r = .400$; Support–Satisfaction $r = .454$.

Step 7.2: Multiple regression analysis (Table 4.28).

The regression uses listwise deletion ($n = 1,429$) and is computed via numpy matrix algebra:

```

reg_cols = ['Psych_Composite', 'Digital_Composite',
            'Socio_Composite', 'Support_Composite',
            'Q41_Satisfaction']
reg_df = df[reg_cols].dropna()
y = reg_df['Q41_Satisfaction'].values
X_raw = reg_df[['Psych_Composite', 'Digital_Composite',
                'Socio_Composite', 'Support_Composite']].values
X = np.column_stack([np.ones(len(y)), X_raw])

# OLS:  $B = (X'X)^{-1} X'y$ 
B = inv(X.T @ X) @ X.T @ y
y_hat = X @ B
residuals = y - y_hat
n = len(y)
k = X_raw.shape[1]
SS_res = np.sum(residuals**2)
SS_tot = np.sum((y - y.mean())**2)
R2 = 1 - SS_res / SS_tot
R2_adj = 1 - (1 - R2) * (n - 1) / (n - k - 1)
F_stat = ((SS_tot - SS_res) / k) / (SS_res / (n - k - 1))

```

```

# Standardized coefficients
X_std = (X_raw - X_raw.mean(axis=0)) / X_raw.std(axis=0, ddof=1)
y_std = (y - y.mean()) / y.std(ddof=1)
Beta_std = inv(X_std.T @ X_std) @ X_std.T @ y_std

# Standard errors, t-values, p-values
MS_res = SS_res / (n - k - 1)
var_B = MS_res * inv(X.T @ X)
SE = np.sqrt(np.diag(var_B))
t_vals = B / SE
p_vals = 2 * (1 - stats.t.cdf(np.abs(t_vals), df=n-k-1))

```

Expected: $R^2 = 0.305$, Adj $R^2 = 0.303$, $F(4, 1424) = 156.46$. Psychological Traits $\beta = 0.329$ ($p < .001$), Support Systems $\beta = 0.225$ ($p < .001$), Socio-Cultural $\beta = 0.068$ ($p = .025$), Digital Skills $\beta = 0.022$ ($p = .499$).

Step 7.3: Variance Inflation Factors (Table 4.29).

```

pred_names = ['Psych_Composite', 'Digital_Composite',
              'Socio_Composite', 'Support_Composite']
for i, pred in enumerate(pred_names):
    others = [p for j, p in enumerate(pred_names) if j != i]
    y_vif = reg_df[pred].values
    X_vif = np.column_stack([np.ones(len(y_vif)),
                             reg_df[others].values])
    B_vif = inv(X_vif.T @ X_vif) @ X_vif.T @ y_vif
    SS_res_vif = np.sum((y_vif - X_vif @ B_vif)**2)
    SS_tot_vif = np.sum((y_vif - y_vif.mean())**2)
    R2_vif = 1 - SS_res_vif / SS_tot_vif
    VIF = 1 / (1 - R2_vif)
    print(f'{pred}: VIF = {VIF:.2f}')

```

Expected: Psych = 2.06, Digital = 2.08, Socio = 1.88, Support = 1.67. All < 5.0 .

Step 7.4: Unique variance contributions (Table 4.30).

```

print(f'Full model R2: {R2:.3f}')
for i, pred in enumerate(pred_names):
    others_idx = [j for j in range(len(pred_names)) if j != i]
    X_reduced = np.column_stack([np.ones(len(y)),
                                X_raw[:, others_idx]])
    B_red = inv(X_reduced.T @ X_reduced) @ X_reduced.T @ y
    SS_res_red = np.sum((y - X_reduced @ B_red)**2)
    R2_red = 1 - SS_res_red / SS_tot
    delta_R2 = R2 - R2_red
    print(f'{pred}: deltaR2={delta_R2:.3f} ({delta_R2*100:.2f}%)')

```

Expected: Psychological Traits = 0.053 (5.27%), Support Systems = 0.030 (3.04%), Socio-Cultural = 0.002 (0.24%), Digital Skills = 0.000 (0.02%).

Step 7.5: Subgroup regression models — first-generation and non-first-generation entrepreneurs (Tables 4.33 and 4.34).

The pooled model in Step 7.2 is re-estimated separately for each group, using identical variable construction, the same listwise-deletion procedure, and entrepreneurial satisfaction as the dependent variable.

fg and nfg were defined in Step 1.4. Re-estimate the Step 7.2

four-predictor model within each group (listwise deletion).

```

reg_cols = ['Psych_Composite', 'Digital_Composite',
            'Socio_Composite', 'Support_Composite',
            'Q41_Satisfaction']
def subgroup_regression(data, label):
    d = data[reg_cols].dropna()
    y = d['Q41_Satisfaction'].values
    X_raw = d[['Psych_Composite', 'Digital_Composite',
               'Socio_Composite', 'Support_Composite']].values
    X = np.column_stack([np.ones(len(y)), X_raw])
    B = inv(X.T @ X) @ X.T @ y
    n = len(y); k = X_raw.shape[1]

```

```

SS_res = np.sum((y - X @ B)**2)
SS_tot = np.sum((y - y.mean())**2)
R2 = 1 - SS_res / SS_tot
R2_adj = 1 - (1 - R2) * (n - 1) / (n - k - 1)
F_stat = ((SS_tot - SS_res) / k) / (SS_res / (n - k - 1))
X_std = (X_raw - X_raw.mean(axis=0)) / X_raw.std(axis=0, ddof=1)
y_std = (y - y.mean()) / y.std(ddof=1)
Beta_std = inv(X_std.T @ X_std) @ X_std.T @ y_std
SE = np.sqrt(np.diag((SS_res / (n - k - 1)) * inv(X.T @ X)))
p_vals = 2 * (1 - stats.t.cdf(np.abs(B / SE), df=n-k-1))
print(f'{label}: n={n}, R2={R2:.3f}, AdjR2={R2_adj:.3f}, '
      f'F({k},{n-k-1})={F_stat:.2f}')
for i, name in enumerate(['Psych','Digital','Socio','Support']):
    print(f' {name}: B={B[i+1]:.3f}, beta={Beta_std[i]:.3f}, '
          f'p={p_vals[i+1]:.3f}')

subgroup_regression(fg, 'First-Generation')
subgroup_regression(nfg, 'Non-First-Generation')

Expected (first-generation, n = 747):  $R^2 = 0.393$ ,  $\text{Adj } R^2 = 0.390$ ,  $F(4, 742) = 120.20$ ,  $p < .001$ .
Psychological Traits  $\beta = 0.424$  ( $p < .001$ ), Support Systems  $\beta = 0.244$  ( $p < .001$ ), Socio-Cultural
 $\beta = 0.057$  ( $p = .156$ ), Digital Skills  $\beta = -0.016$  ( $p = .707$ ). All VIF 1.71–2.15.

Expected (non-first-generation, n = 682):  $R^2 = 0.198$ ,  $\text{Adj } R^2 = 0.193$ ,  $F(4, 677) = 41.78$ ,  $p < .001$ .
Psychological Traits  $\beta = 0.212$  ( $p < .001$ ), Support Systems  $\beta = 0.179$  ( $p < .001$ ), Socio-
Cultural  $\beta = 0.066$  ( $p = .145$ ), Digital Skills  $\beta = 0.078$  ( $p = .109$ ). All VIF 1.63–2.02.

```

Step 7.6: Moderation analysis — first-generation $\times$ predictor interactions (Table 4.35).

To test whether the subgroup differences reflect a genuine group distinction rather than sampling variation, the four predictors are mean-centered and multiplied by a first-generation indicator (non-first-generation as the reference group) in a single model on the combined sample.

Reference group = Non-First-Generation (FG = 0).

Predictors mean-centered; FG indicator $\times$ each predictor.

```

mod_cols = ['Psych_Composite', 'Digital_Composite',
            'Socio_Composite', 'Support_Composite',
            'Q41_Satisfaction', 'FirstGen_Status']
m = df[mod_cols].dropna()
FG = (m['FirstGen_Status'] == 'First-Generation').astype(float).values.reshape(-1, 1)
preds = ['Psych_Composite', 'Digital_Composite',
        'Socio_Composite', 'Support_Composite']
P_c = m[preds].values - m[preds].values.mean(axis=0) # mean-center
interactions = P_c * FG # FG x each predictor
y = m['Q41_Satisfaction'].values
X = np.column_stack([np.ones(len(y)), FG, P_c, interactions])
B = inv(X.T @ X) @ X.T @ y
n = len(y); k = X.shape[1] - 1
SS_res = np.sum((y - X @ B)**2)
SE = np.sqrt(np.diag((SS_res / (n - k - 1)) * inv(X.T @ X)))
p_vals = 2 * (1 - stats.t.cdf(np.abs(B / SE), df=n-k-1))

terms = ['Constant', 'FG (main effect)',
        'Psych_c', 'Digital_c', 'Socio_c', 'Support_c',
        'FG x Psych', 'FG x Digital', 'FG x Socio', 'FG x Support']
for i, term in enumerate(terms):
    print(f'{term}: B={B[i]:.3f}, t={(B[i]/SE[i]):.2f}, p={p_vals[i]:.3f}')

```

Expected (n = 1,429): First-Generation main effect $B = -0.073$ ($p = .060$, ns); FG $\times$ Psychological Traits $B = 0.284$ ($p = .003$); FG $\times$ Digital Skills $B = -0.139$ ($p = .139$, ns); FG $\times$ Socio-Cultural $B = -0.023$ ($p = .775$, ns); FG $\times$ Support Systems $B = 0.061$ ($p = .370$, ns). Only the psychological-traits interaction is significant.

SECTION 8: VERIFICATION CHECKLIST

The following table provides a comprehensive checklist of all key statistics reported in Chapters 4 and 5. Every value has been independently verified by executing the code above against the raw dataset. All values matched exactly. The checklist spans the full-sample integrated model

(Step 7.2), the first-generation and non-first-generation subgroup models (Step 7.5; Tables 4.33 and 4.34), and the moderation analysis testing first-generation $\times$ predictor interactions (Step 7.6; Table 4.35).

Table B.1 *Verification Checklist: Key Statistics and Expected Values*

Statistic	Verified Value	Section
Total sample size (n)	1,439	1, Step 1.1
Complete cases (satisfaction)	1,431 (99.4%)	1, Step 1.1
First-generation entrepreneurs	749 (52.1%)	1, Step 1.3
Non-first-generation entrepreneurs	682 (47.4%)	1, Step 1.3
Gen Z	720 (50.0%)	1, Step 1.3
Millennials	709 (49.3%)	1, Step 1.3
Psych Composite M (SD)	4.210 (0.596)	1, Step 1.4
Digital Composite M (SD)	4.329 (0.597)	1, Step 1.4
Socio Composite M (SD)	4.242 (0.661)	1, Step 1.4
Support Composite M (SD)	4.190 (0.750)	1, Step 1.4
Psychological Traits α	0.769	2, Step 2.1
Digital Skills α	0.724	2, Step 2.1
Support Systems α	0.614	2, Step 2.1
Socio-Cultural α	0.338	2, Step 2.1
Self-Efficacy item-total r	0.603	2, Step 2.2
FG vs NFG psych (all)	All ns, all $d < 0.10$	3, Step 3.2
Generational composite d	-0.22, $p < .001$	3, Step 3.3
FG Cultural Influence M	4.003	4, Step 4.1
NFG Cultural Influence M	4.189	4, Step 4.1
Cultural influence d	-0.20, $p < .001$	4, Step 4.1

Statistic	Verified Value	Section
Digital Proficiency M	4.335	5, Step 5.1
Digital tool usage $\geq$ sometimes	96.3%	5, Step 5.1
Q24 FG vs NFG	$t = -2.03, p = .043$	5, Step 5.2
Mentorship FG received	557/749 (74.4%)	6, Step 6.1
Mentorship NFG received	569/677 (84.0%)	6, Step 6.1
Mentorship gap	9.7 pp	6, Step 6.1
Mentorship χ^2	19.49, $p < .001$	6, Step 6.1
Cramér's V	0.117	6, Step 6.1
Psych–Satisfaction r	.509	7, Step 7.1
Digital–Satisfaction r	.402	7, Step 7.1
Socio–Satisfaction r	.400	7, Step 7.1
Support–Satisfaction r	.454	7, Step 7.1
Pooled regression R^2	0.305	7, Step 7.2
Pooled Adj R^2	0.303	7, Step 7.2
Pooled $F(4, 1424)$	156.46, $p < .001$	7, Step 7.2
Pooled Psych β	0.329, $p < .001$	7, Step 7.2
Pooled Digital β	0.022, $p = .499$ (ns)	7, Step 7.2
Pooled Socio β	0.068, $p = .025$	7, Step 7.2
Pooled Support β	0.225, $p < .001$	7, Step 7.2
FG subgroup n	747	7, Step 7.5
FG subgroup R^2	0.393	7, Step 7.5
FG subgroup Adj R^2	0.390	7, Step 7.5
FG subgroup $F(4, 742)$	120.20, $p < .001$	7, Step 7.5

Statistic	Verified Value	Section
FG Psych β	0.424, $p < .001$	7, Step 7.5
FG Support β	0.244, $p < .001$	7, Step 7.5
FG Socio β	0.057, $p = .156$ (ns)	7, Step 7.5
FG Digital β	-0.016, $p = .707$ (ns)	7, Step 7.5
NFG subgroup n	682	7, Step 7.5
NFG subgroup R^2	0.198	7, Step 7.5
NFG subgroup Adj R^2	0.193	7, Step 7.5
NFG subgroup $F(4, 677)$	41.78, $p < .001$	7, Step 7.5
NFG Psych β	0.212, $p < .001$	7, Step 7.5
NFG Support β	0.179, $p < .001$	7, Step 7.5
NFG Socio β	0.066, $p = .145$ (ns)	7, Step 7.5
NFG Digital β	0.078, $p = .109$ (ns)	7, Step 7.5
Moderation n	1,429	7, Step 7.6
FG main effect	$B = -0.073$, $p = .060$ (ns)	7, Step 7.6
FG $\times$ Psychological Traits	$B = 0.284$, $p = .003$	7, Step 7.6
FG $\times$ Support Systems	$B = 0.061$, $p = .370$ (ns)	7, Step 7.6
FG $\times$ Digital Skills	$B = -0.139$, $p = .139$ (ns)	7, Step 7.6
FG $\times$ Socio-Cultural	$B = -0.023$, $p = .775$ (ns)	7, Step 7.6

Note. ns = not statistically significant at $p < .05$. Subgroup and moderation models use listwise deletion: first-generation $n = 747$, non-first-generation $n = 682$, combined moderation $n = 1,429$. Standardized coefficients (β) are reported for the subgroup models; unstandardized coefficients (B) are reported for the moderation model, consistent with Tables 4.33–4.35. “Pooled” denotes the full-sample integrated model (Table 4.28).

METHODOLOGICAL NOTES

The correlation matrix in Table 4.27 was computed using pairwise complete cases (maximum available n per variable pair, ranging from $n = 1,429$ to $n = 1,431$). The regression analysis in Step 7.2 necessarily uses listwise deletion ($n = 1,429$, where all five variables are non-missing). This is standard practice: correlations report maximum available information, while regression requires complete cases across all predictors (Field, 2018). If correlations are computed on the listwise sample only, values may differ by ± 0.001 at the third decimal due to the exclusion of one to two additional cases.

VERIFICATION STATEMENT

Every statistic in this appendix has been independently executed against the raw SSBM survey dataset and verified to match the values reported in Chapters 4 and 5. The code was tested in a Python environment replicating Google Colab's configuration, with pandas for data structuring, SciPy for inferential testing, and numpy for matrix-based OLS regression. AI-assisted computational methods were utilized to write and validate the analytical scripts, with all results cross-verified against the raw dataset, ensuring a reproducible and transparent analytical workflow consistent with best practices in quantitative research methodology (Creswell and Creswell, 2018; Field, 2018).

APPENDIX C

INFORMED CONSENT FORM FOR RESEARCH PARTICIPATION

From Aspiration to Action: Understanding the Characteristics that Enable
First-Generation Entrepreneurs to Start and Navigate Early Ventures in the Digital Age

Principal Investigator: Jorge Raziél Ortiz

Swiss School of Business and Management, Geneva

Research Supervisor: Dr. Maria Joseph Xavier

Note. The informed consent form was presented to all participants as the first page of the online survey administered via Typeform. Participants were required to read and agree to the terms below before proceeding to the survey instrument (see Appendix A). The form is reproduced here as it appeared to participants.

Study Title

From Aspiration to Action: Understanding the Characteristics That Enable First-Generation Entrepreneurs to Start and Navigate Early Ventures in the Digital Age

Principal Investigator

Jorge Raziél Ortiz

Swiss School of Business and Management

Research Supervisor

Dr. Maria Joseph Xavier

Swiss School of Business and Management

Purpose of the Study

This research explores the specific characteristics, psychological traits, and external factors that empower first-generation entrepreneurs, particularly those from Generation Z, to move from entrepreneurial aspiration to action and persist through the critical early stages of their ventures.

Participant Requirements

To participate, you must:

- Be born between 1981 and 1996 or between 1997 and 2012 (Millennial or Generation Z)
- Be a first-generation entrepreneur (no family business background)
- Have started at least one business venture
- Be at least 18 years old

What to Expect

- The survey takes 20–30 minutes to complete.
- Questions will cover:
 - Your entrepreneurial journey and business experiences
 - Digital tools and platforms you use
 - Personal characteristics and attitudes
 - Challenges and support systems
 - Business milestones and achievements

Voluntary Participation

- Participation is entirely voluntary.
- You may:
 - Choose not to participate
 - Skip any questions
 - Withdraw at any time without penalty
 - Request data removal before publication

Potential Risks

- Minimal risks, such as mild discomfort reflecting on challenges
- Possible sensitivity around business performance questions

Benefits

- Contribute to understanding first-generation entrepreneurship
- Help improve support for future entrepreneurs
- Option to receive a summary of findings
- Optional networking with other participants

Confidentiality and Data Protection

- **Data Security:** Survey responses are stored on encrypted servers, accessible only to the research team.
- **Anonymity:** Responses will be anonymized in all outputs; direct quotes will use pseudonyms. No personally identifiable information will appear in publications.
- **Data Retention:** Data will be kept for 5 years after study completion, then all personally identifiable information will be deleted.
- **Data Usage:** Used only for academic research (e.g., publications, dissertation) and handled per GDPR and relevant regulations.
- **Minimization:** Only necessary data will be collected.

Collection of Contact Information

- Contact information (e.g., email address) is not required for the main survey, which remains anonymous.
- If you opt into follow-up research, related studies, receiving findings, or networking, we will collect your email address separately.
- This information:
 - Will be stored apart from survey responses
 - Used only for purposes you consent to
 - Deleted after 5 years or when the purpose is fulfilled (whichever is sooner)
- You may withdraw consent for its use anytime (see below).

Networking Option

- If you opt into networking, you will be invited to a secure platform to connect with other participants who also opt in. Your contact information will not be shared without your explicit consent.

Your Rights

- **Withdrawal:** Exit the study or request data deletion (including contact information) anytime before publication by emailing the researcher.
- **Access:** Request access to your data by contacting the researcher.

Compensation

- Participation is unpaid.
- You may opt to receive a summary of findings.

Ethics Approval

Approved by the Swiss School of Business and Management Ethics Committee.

Consent Declaration

By proceeding, you confirm:

1. You have read and understood this information
2. You meet the participant requirements
3. You voluntarily agree to participate
4. You understand your rights
5. You consent to data collection and use as described
6. You are at least 18 years old
7. You know you can withdraw anytime

8. If opting into additional activities, you agree to provide contact information as outlined

Do you consent to participate?

- Yes, I consent and agree to the terms
- No, I do not wish to participate

(If No, the survey ends)

Optional Additional Consent

Would you like to:

1. Be contacted for follow-up research? Yes / No
2. Have your anonymized data archived for future research? Yes / No
3. Be contacted about related studies? Yes / No
4. Join networking opportunities with other participants? Yes / No

If “Yes” to 1, 3, or 4, please provide your email: _____

(This will be collected separately and not linked to your survey responses unless specified for follow-up purposes.)

Date: [Automated timestamp]

Please save or print this form for your records.