September 2017

What Factors during the Genesis of a Startup are Causal to Survival?

Gilbert T. Gonzalez
University of South Florida, gilbertgonza@mail.usf.edu

Follow this and additional works at: http://scholarcommons.usf.edu/etd
Part of the Business Administration, Management, and Operations Commons, and the Entrepreneurial and Small Business Operations Commons

Scholar Commons Citation

This Dissertation is brought to you for free and open access by the Graduate School at Scholar Commons. It has been accepted for inclusion in Graduate Theses and Dissertations by an authorized administrator of Scholar Commons. For more information, please contact scholarcommons@usf.edu.
What Factors during the Genesis of a Startup are Causal to Survival?

by

Gilbert T. Gonzalez

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor in Business Administration
Department of Graduate Studies
College of Business
University of South Florida

Co-Major Professor: Joann Quinn, Ph.D.
Co-Major Professor: Paul Solomon, Ph.D.
T. Grandon Gill, D.B.A.
Timothy Heath, Ph.D.

Date of Approval:
September 15, 2017

Keywords: Business Plan, Sustainability, Launch, Strategy, Startup Business Plan, Business Model, Business Canvas, Lean Strategy, Lean Canvas, Incubator, Business Creation, Accelerator.

Copyright © 2017, Gilbert T. Gonzalez
DEDICATION

I dedicate this work to my God, my wife Kim, my children G.T. and Meagan, and my many friends and allies. Without your support, I could not have achieved this honor.
ACKNOWLEDGMENTS

I need to express my gratitude to the many teachers who led and inspired me to this moment. Special thanks to my Chair, Joann Quinn, whose patience and grounding was invaluable. Thanks to Co-Chair Paul Solomon, Ph.D. and T Grandon Gill, D.B.A and Timothy Heath, Ph. D. for their counsel and support. I also need to thank my classmates who’s support and encouragement was essential to get through these three grueling years.

Special recognition to the DBA program director T. Grandon Gill and assistant director Mathew Mullarkey, Ph.D., for developing this program and creating an amazing experience. Lastly, none of this would be possible without the vision and leadership of our Dean, Moez Limayem, Ph. D.
TABLE OF CONTENTS

List of Tables ............................................................................................................................. ii

List of Figures ........................................................................................................................... iii

Abstract...................................................................................................................................... v

Chapter One: A Description of “Startup Business Plans: Do Academic Researchers and Expert Practitioners Still Disagree?” ............................................................................... 1

Chapter Two: A Description of “What Factors Are Causal to Survival of a Startup?” ............... 3

Chapter Three: A Description of “A Risk Analysis for Initial Needs (RAIN): Improving a Time Zero Startup Plan through Resource Based Auditing (RBA) and a Launch Focused Strategy” ................................................................................................................... 5

References ................................................................................................................................ 7

Appendix A: Startup Business Plans: Do Academic Researchers and Expert Practitioners Still Disagree? ............................................................................................ 8

Appendix B: What Factors Are Causal to Survival of a Startup? .................................................. 18

Appendix C: Chapter Four: Risk Analysis for Initial Needs (RAIN): Improving a Time Zero Startup Plan through Resource Based Auditing (RBA) and a Launch Focused Strategy .................................................................................................................... 37

About the Author ...................................................................................................................... End Page
LIST OF TABLES

Table B1: Validation by Opposing Variables ................................................................. 29
Table B2: Findings Table ............................................................................................. 29
Table B3: Positive, Negative, and Net Themes by Firm 30
Table B4: OLS Regression Results by Survival Age .................................................. 33
Table B5: Regression Through the Origin Results by Survival Age........................... 33
Table B6: Heat Map – Survival Rates by Country and Firm Age ................................. 37
Table B8: Summary of Evidence .................................................................................. 41
Table C1: Fischer’s Stages of Growth Summary ............................................................ 48
Table C2: Examples of Risk Pool Deficiencies and Strategies ...................................... 51
Table C3: RAIN Phase 1: Business Model Design ....................................................... 54
Table C4: RAIN Phase 2: Environmental Assessment & Resource Based Audit .......... 55
Table C5: Rain Phase 3: Launch Strategy ..................................................................... 56
LIST OF FIGURES

Figure A1: Evolution of Strategic Planning ................................................................. 21

Figure A2: Strategic Management Planning Cycle ...................................................... 21

Figure B1: U.S. Survival Rates..................................................................................... 27

Figure B2: Theme by Number of Occurrences in Sustainable and Unsustainable
Companies.................................................................................................................. 30

Figure B3: Type of Theme by Number of Occurrences in Sustainable and Unsustainable
Companies.................................................................................................................. 31

Figure B4: Survival by State......................................................................................... 34

Figure B5: Survival by Industry Membership............................................................... 35

Figure B6: Prime Rate and Years 1–4 Survival Rates.................................................. 36

Figure B7: Accelerators and Years 1–4 Survival Rates .............................................. 36

Figure B8: RGDP and Years 1–4 Survival Rates......................................................... 37

Figure B9: Years 1–5 Startup Survival Rates by country (2008–2014)......................... 38

Figure C1: Evolution of Strategic and Startup Planning ............................................. 46

Figure C2: Risk Analysis for Initial Needs................................................................. 49
Figure C3: Resource Based Audit Process................................................................. 50

Figure C4: Fischer's Life Cycle and Planning Models............................................... 53

Figure C5: Business Planning Models & Life Cycle .................................................... 57
ABSTRACT

This research presents the results of a qualitative and quantitative investigation into what factors are present at time zero that increase the probability that a startup will achieve long term sustainability.

Survival rates for startups in the United States (U.S.) are disappointingly low and economically inefficient. The data shows that the U.S. clearly lags its peer countries in the survival rates of startups. The U.S ranked an unacceptable 11th of 14 among its peer countries in first-year survival rates in recent years. Startup failure does not only impact the entrepreneur; it also impacts creditors, vendors, community stakeholders, and employees. While it is commonly acknowledged that entrepreneurial businesses contribute to economic growth, the influential impact survival can have on economic growth within the community is often understated. The economic impact of startups on the community makes this area of research even more vital. To avoid failure and improve the sustainability of startups requires an in-depth understanding of the factors that are causal and non-causal to sustainability.

While there has been significant investment and support by communities, government, and private foundations, startup failure rates remain virtually unchanged in the last two decades. Despite the many years of research in the field of entrepreneurship, U.S. failure rates within the first five years’ average 53%, regardless of the industry membership or economic cycles.
Identifying factors that are causal and non-causal to the sustainability of emerging businesses is crucial to the founders and stakeholders.

Within this study, both internal and external factors that may be causal to the macro survival rate of U.S. startups were studied. The external factors were studied quantitatively, using data published by the Bureau of Labor Statistics (BLS), Federal Reserve Economic Data (FRED) and the Brookings Institute. A protocol of regression analysis and visual analytics were applied to evaluate the quantitative data. It demonstrated that external factors such as the change in real gross domestic product (RGDP), interest rates, and expansion of accelerators have had no significant effect on U.S. macro startup survival rates. Further, the findings confirm that neither geographic location nor industry membership impacted U.S. macro startup survival rates.

Internal factors were studied qualitatively, using a grounded theory protocol. The qualitative research did uncover three internal factors that were causal to survival of the startups studied. Those internal factors were:

- **Career Autonomy** – The entrepreneurs motivated by career autonomy were significantly more likely to achieve long-term sustainability.
- **Allies** – The entrepreneurs who identify and utilized allies were more likely to survive.
- **Purposeful Margin of Safety model** – Startups whose founders had a rigorous understanding of the margin of safety (MOS) and its underlying elements of pricing and break-even analysis were more likely to survive.

This qualitative study provides significant evidence that, when these three causal factors are present, the likelihood of sustainability is high. These findings extend our knowledge on how to improve the probability of sustainability for the firms. This study demonstrates that the U.S. can and should improve its startup survival rates by focusing on the internal factors that are necessary at time zero to ensure sustainability and survival.
CHAPTER ONE

A Description of “Startup Business Plans: Do Academic Researchers and Expert Practitioners Still Disagree?”

Note to Reader

Portions of this Chapter have been previously published in the *Muma Business Review*, 2017, 1(15):189-197, and have been reproduced with the permission of the *Muma Business Review*.

Description

The deep divide between the academic and practitioner guidance with respect to startup planning continues to expand. The unique communities differ on their advice to founders on both the value and methods of creating a startup business plan with respect to the importance of creating a startup plan. This gap is observable in the literature. It is important to understand the difference between a startup business plan, which is formed at time zero, and a strategic business plan that is subsequently created. Understanding the unique challenges of time zero planning can contribute to further understanding which factors are causal to sustainability.

This literature review demonstrates the existing gap between the methods advocated for startup planning within academic and practitioner publications, especially when measured over time. The recent preferences of practitioners and academics to minimize or abandon traditional
strategic planning methods and utilize either no planning or “lean” planning as an alternative are particularly interesting. A longitudinal exploration of the motivations and reasoning that are causal to the divergence of the two communities as employed in this research serves to advance the understanding of the role of planning undertaken by startups at time zero (Gilbert Gonzalez, 2017a).
CHAPTER TWO

A Description of “What Factors Are Causal to Survival of a Startup?

Note to Reader

Portions of this Chapter have been previously published in the Muma Business Review, 2017, 1(9):97-114, and have been reproduced with the permission of the Muma Business Review.

Description

Both internal and external factors that may be causal to the macro survival rate of U.S. startups were studied in this research. The external factors were studied quantitatively, using data published by the Bureau of Labor Statistics (BLS), Federal Reserve Economic Data (FRED) and the Brookings Institute. A protocol of regression analysis and visual analytics were applied to evaluate the quantitative data. It demonstrated that external factors such as the change in real gross domestic product (RGDP), interest rates, and expansion of accelerators have had no significant effect on U.S. macro startup survival rates. Further, the findings confirm that neither geographic location nor industry membership impacted U.S. macro startup survival rates.
Internal factors were studied qualitatively, using a grounded theory protocol. The qualitative research did uncover three internal factors that were causal to survival of the startups studied. Those internal factors were:

- **Career Autonomy** – The entrepreneurs motivated by career autonomy were significantly more likely to achieve long-term sustainability.
- **Allies** – The entrepreneurs who identify and utilized allies were more likely to survive.
- **Purposeful Margin of Safety model** – Startups whose founders had a rigorous understanding of the margin of safety (MOS) and its underlying elements of pricing and break-even analysis were more likely to survive.

This qualitative study provides significant evidence that, when these three causal factors are present, the likelihood of sustainability is high. These findings extend our knowledge on how to improve the probability of sustainability for the firms. This study demonstrates that the U.S. can and should improve its startup survival rates by focusing on the internal factors that are necessary at time zero to ensure sustainability and survival. (Gilbert Gonzalez, 2017b)
CHAPTER THREE

A Description of “A Risk Analysis for Initial Needs (RAIN): Improving a Time Zero Startup Plan through Resource Based Auditing (RBA) and a Launch Focused Strategy”

Note to Reader

Portions of this Chapter have been previously published in the *Muma Business Review*, 2017,1(8):81-95, and have been reproduced with the permission of the *Muma Business Review*.

Description

Risk Analysis for Initial Needs (RAIN) is a planning model with a resource-based audit (RBA) tool to support the creation of a time zero startup business plan. Improving on the planning model will improve the perceived value of the startup plan to founders and stakeholders. RAIN is unique in that it identifies gaps between the needs and availability of the needed resources at time zero.

The creation of RAIN was motivated by the desire to seek a solution to the business problem of continuously high failure rates through improved startup business planning. RAIN
improves the startup business plan by replacing traditional environmental auditing with resource-based auditing (RBA), and focusing on sustainability and scalability during the post-launch Incubation period. Using the RAIN startup planning model at time zero and throughout the early stages of the business lifecycle should improve sustainability and encourage founders to embrace developing and using startup plans. (Gilbert Gonzalez, 2017)
REFERENCES


APPENDIX A

Muma Business Review
A publication of the Muma College of Business | University of South Florida
Volume 1, Number 1 | Research Question Review | 15 SEPTEMBER 2017

Startup Business Plans: Do Academic Researchers and Expert Practitioners Still Disagree?

By Gilbert Gonzalez

The deep divide between the academic and practitioner guidance with respect to startup planning continues to expand. The unique communities differ on their advice to founders on both the value and methods of creating a startup business plan with respect to the importance of creating a startup plan. This gap is observable in the literature. It is important to understand the difference between a startup business plan, which is formed at time zero, and a strategic business plan that is subsequently created. Understanding the unique challenges of time zero planning can contribute to further understanding which factors are causal to sustainability (Gonzalez, 2017a).

Time zero refers to the moment when a single decision has been made to create a new organization, and it plays a vital role in the future course of a startup. A startup business plan, on the other hand, is a structured, formalized plan of when, where, and how the startup occurs. Academic literature still touts business plans as a preferred method of startup planning, and business schools still actively teach the creation of business plans (Hormoz, Sutton, McMinn, & Lucio, 2002). Popular and influential practitioner publications state that startup planning is of little or no value (Gerber, 2010; Guttman, 2013). While it is generally acknowledged that business planning is an iterative process, the startup plan is unique as it is not possible to observe its strengths or weaknesses at time zero (Gonzalez, 2017b). The absence of such data makes it even more challenging to use legacy audit-based models at the initial iteration of planning.

This review attempts to demonstrate the existing gap between the methods advocated for startup planning within academic and practitioner publications, especially when measured over time. The recent preferences of practitioners and academics to minimize or abandon traditional strategic planning methods and utilize either no planning or “lean” planning as an alternative are at the core of this research. A longitudinal exploration of the motivations and reasoning that are causal to the divergence of the two communities as employed in this research shall serve to advance the understanding of the role of planning undertaken by startups at time zero.

Academic researchers and practitioners disagree on the value and methodology of creating a startup plan. An analysis of the differences and the motivations of these two district communities gives insight into the challenges of planning a successful launch.

Keywords: Startup, Startup Plan, Business Plan, Business Creation, Emerging Business, SWOT, Auditing, Incubator, Lean Strategy, Lean Startup, Founding, Strategic Management, Early Stage Business, Entrepreneur, Entrepreneurship, Accelerator, Time Zero Plan, Initial Business Plan

Copyright © 2017, Gilbert Gonzalez. This article is published under a Creative Commons BY-NC license. Permission is granted to copy and distribute this article for non-commercial purposes, in both printed and electronic formats
We must begin to study and explain why startup failure rates remain high and unchanged since 1994 (SBA Office of Advocacy, 2016). The failure rate for startups within the first five years of their establishment is four out of five, or 80% according to Department of Labor (DOL) statistics (SBA Office of Advocacy, 2016). This rate has been constant since 1994 across a myriad of industries and economic cycles despite increased investment in entrepreneurial incubation and education. Therefore, a study of why startup failure rates have remained high and unchanged since 1994 is believed to shed light into whether and to what extent these failures can be prevented (SBA Office of Advocacy, 2016).

Testimonials about startups and entrepreneurs that have failed several times before they ultimately succeed are common in the business literature. The ability to avoid the failed attempts, at least to a certain degree, is not only important for the entrepreneur, but also for their stakeholders. However, such a capability requires an in-depth understanding of the reasons that have caused the failure of these startups. It is commonly acknowledged that entrepreneurial businesses contribute to economic growth (Frick, 2016). In this context, these new ventures deserve and enjoy the benefit of services and resources provided by many external stakeholders, such as incubators and advisory services (Guzman & Stern, 2016).

Insight into how the small group of successful emerging businesses achieve sustainability is imperative. It is especially significant to understand the factors that are causal to sustainability. We will begin with a detailed review of the previous and current literature that provides information and advice to entrepreneurs and their mentors on the best practices for creating and establishing a new business entity.

The broader literature can be categorized by the perspective of the audience that they target. Whilst academic journals and textbooks primarily target the academic audience; magazines and instructional "how to" books target the broader public. Even though both categories share the common goal of improving the success rate of new startups, they differ.
Literature Summary

Both the academic literature on startup business planning and practitioner writings on startup businesses are well established. These studies have particularly proliferated over the recent years as the emphasis on the success of startup businesses increased. However, there is still a significant gap in terms of the advice and guidance being offered with respect to the necessity of a business plan in general, both in the academic and practitioner literature. Additionally, there are several studies both in the academic and practitioner literature that question and debate the value of a business plan at time zero, or otherwise referred to as the Startup Business Plan (Barrow, Barrow, & Brown, 2015).

Review of the Academic Journals, Books, and Writings

Hormoz et al. (2002) state business plans serve an important purpose because they define the enterprise, regardless of whether it is a startup or an established enterprise, and its operating strategy. Frick (2016) makes clear that business planning not only has internal value but also benefits external stakeholders. Segal-Horn (1998) states startup business plans are a critical tool which describes the opportunity that the business holds to potential outside investors. Effective startup plans are contingent upon different factors such as timely evaluation, and control cycles established for the business and development of the startup plan by a team rather than sole strategist. The factors that contribute to a high-quality startup plan are causal to successful sustainability of the new venture (Cook, Belliveau, & Sandberg, 2004).

Sexton and Bowman-Upton (1991) and Burstiner (1997) assert that formal planning should always take place before any operational activities commence for a startup venture. Mintzberg (1994) argues formal planning helps business owners to consider different aspects of a business before they begin to carry out the operational actions required by the business. In fact, it is argued that identification of the goals and the instruments to be utilized to reach those goals ensures that the risks are mitigated and the startup strategy determined can be effectively executed (Pearce & Robinson, 1988; Wheelen & Hunger, 1998).

The value of a startup business plan stems from its potential to reduce risks. The lack of a startup business plan can actually increase the risk of failure (Perry, 2001). This was demonstrated in a study by Shane and Delmar (2004). In their study, it was established that a causal relationship exists between risk reduction and planning (Shane & Delmar, 2004). Shane and Delmar's (2004) study demonstrates that creating a startup business plan prior to initiating operations lowers the risk of failure. A significant study conducted by Sexton and Van Auken (1985) demonstrated that the failure rates within the first three years of a startup exceeded 50%, whereas these rates were lower for startups with a written plan. Another significant finding of this study showed that 20% of those businesses which did not have any plans failed, while only 8% of the businesses failed when a business plan was drafted. Many researchers assert that traditional startup plans correlated with a higher probability of success and improved growth performance. In contrast, the research claims startups who did little or no formal planning had lower success rates (Crawford-Lucas, 1992; Orser, Hogarth-Scott, & Riding, 2000).

Zinger claims that delay caused by the act of creating a startup plan can moderate rash and impulsive entrepreneurial behaviors. He claims that slowing down the founder of the startup business through the planning process has the potential to lower the risk of failure. He argued that founders often have an action-minded orientation. The inclination to take rapid action causes founders to make decisions prior to having a complete understanding. These founders benefit from delay associated with a written plan by causing the founder to develop a more rigorous launch strategy prior to beginning operation (Zinger & LeBrasseur, 2003).

The research literature further asserts that the startup plan serves as an ideal instrument for new enterprises to present the opportunities available to investors, bankers, sureties, and other stakeholders. They claim a startup business plan can attract clients and investment (Bangs, 1998; Hodges, 1997). In fact, Douglas, Shepherd, and Douglas (1999) argue that...
the written startup plan is the best tool to create a positive first impression on venture capitalists and other key stakeholders. The startup business plan is described as “the ticket of admission” for any founder seeking to attract investment capital. For those reasons, Barrow et al. (2015) claim the startup plan is of vital importance for new enterprises. Cook et al. (2004) assert that a startup plan is a “virtual requirement” in order to induce investors to provide capital to a startup.

In another study where 152 venture capitalists were surveyed, the findings revealed that the venture capitalists view a startup plan as an important part of the endeavors for a new enterprise. Remarkably, 69% of those surveyed indicated that they had not invested in a firm without a startup plan before. This implies 31% had made an investment in a firm without a startup plan. This is significant because it reveals that while the venture capitalist preferred a startup plan, it was not mandatory for more than 30% of those surveyed. The researchers also reported that 74% of the respondents acknowledged that they do not read the startup plans carefully. This data demonstrates that some founders, investors, and practitioners do not consider a startup plan as a vital requirement. Nevertheless, only 5% of the respondents agreed that no startup plan was needed (Ashamalla, Orife, & Abel, 2008).

**Existing Theory**

The benefits of preparing a startup plan for businesses are also supported by existing theories such as Goal Setting Theory (GST) and Resource Based Theory (RBT). GST, as explained by Locke and Latham (1990), refers to the positive impact on performance due to the effects of setting goals (Locke & Latham, 1990). Researcher Edwin Locke (1990) found that individuals who set specific and difficult goals performed better than those who set general and easy goals. Their research showed that working toward a goal improves motivation, which in turn, improves performance. Not only are startup business plans important for determining strategies, but they also require the establishment of objectives from the beginning, and setting these goals facilitates effective implementation as the business progresses (Rousseau, 1997). It is also argued that planning enables objectives to be integrated into human behavior, which further makes startup planning essential for the success of that business as set forth by GST (Bandura, Prochaska, & Velicer, 1997).

Initially, a startup plan provides a foundation upon which the entrepreneur can build a complete and executable idea (Nuttin, 1983).

Resource-Based Theory asserts that a planned and purposeful startup lowers the risk of failure through the creation of intentional competitive advantage, and therefore, it is vital for these businesses (Miles, 2012). In addition to this, a startup plan identifies the necessary skills, resources, and information to achieve the chosen objectives and these can act as guidance for the entrepreneur or startup business owner when moving forward (Burstoner, 1997). In other words, a startup plan that includes the objectives of a business along with the skills, resources, and information required to fulfill those objectives, creates a framework for entrepreneurial action which can help the business to flourish if executed (Shane & Delmar, 2004). This aspect of startup business plans conforms with Resource-Based Theory, which is another theoretical framework that presents the factors necessary to ensure the effectiveness of a startup plan (Alvarez & Busenitz, 2001).

**Publications Focused on the Practitioner Audience**

A longitudinal review of the literature that targets practitioners as its audience reveals that it has been a common practice to advise entrepreneurs not to create a traditional startup business plan. This began at the end of the 1980s and continues to present day. Practitioners argued that the expeditious changes occurring in the business world and external dynamics that have dominated global business circles over the last few decades have made traditional startup plans less effective and inessential (Bhidé, 2006; Drejer, 2004). Drucker asserts turbulence and dynamic external environmental changes require companies to plan and function differently (Drucker, 2013). The implications of these changes are multifold. First, it is argued that a formal business plan can hold back the entrepreneur if it is strictly followed without any flexibility or initiative. Ansoff and McDonell (1990) state that the entrepreneur should not need to adhere to the startup plan, therefore, the plan does not add value. Further, practitioners assert that real-time responses yield better results (Johnson & Scholes, 1999). None of these studies propose the abandonment of startup plans entirely, but they rather argue that they should take on a new form that is more conducive to flexibility and adaptation to the changing conditions (Johnson & Scholes, 1999).

In contrast to the strand of literature that argues a startup plan is nevertheless required, there are also other studies which assert that the traditional startup business plan has lost its value altogether (Blank,
These authors argue that venture capitalists do not take traditional business plans seriously anymore, and they are no longer considered as a prerequisite to acquiring venture capital investment. There are conflicting views among the practitioners themselves. Gerber (2010) suggests that a startup plan should be limited to one paragraph where the entrepreneur does not have to commit time or make expenses for anything other than the broad objective. Some practitioners believe that entrepreneurs overemphasize the startup plan, and stakeholders underutilize the document when provided (Gumpert, 2002). Therefore, a startup plan serves as an "intellectual pushup," which is merely good exercise, but of little relevance (Gumpert, 2002). According to a survey conducted by Gumpert (2002) 90% of venture capitalists stated that the startup plan is neither a clear and accurate assessment of the enterprise's condition, nor does it add any insight to the startup's prospects. The underlying reasoning is that the plans are inherently overoptimistic and ambitious. Furthermore, entrepreneurial authors often underestimate the impact of the competitive landscape which results in unrealistic proforma results (Gumpert, 2002). Practitioners also claim that traditional startup plans tend to be more of a goal-oriented document than a strategy document which outlines the means to reach the ends (Harrison & Thompson, 1994). Castrogiovanni (1996) argued that there are numerous examples of startups with significant achievements even though they did not have a startup plan, such as Microsoft, Apple, and Federal Express. Castrogiovanni (1996) reported that 51% or 220, of the Inc. 500 fast growing firms in 1996 did not have a formal startup plan. The Lean movement is significant in that it is garnering support from members of both the academic community as well as practitioners. Lean has unified members from both communities with respect to advising not to conduct traditional planning at time zero (Blank et al., 2013). Lean startups encourage entrepreneurs to test ideas quickly with potential and existing customers. They provide a means to learn what works quickly and inexpensively (Fichter, 2015). Eric Ries (2011) proposed that businesses should not waste time or money on a traditional business plan. He states that all the enterprise's energy and resources should be placed on product development and customers' acceptance (Ries, 2011). Using an iterative model called Lean Strategy, he argues that the best results can be achieved by rapidly deploying beta products and measuring customer responses, as well as "pivoting," or adjusting, to customers' feedback to accelerate the time required to monetize the product, service, or solution. This model is very applicable to software and managed services. It is, however, not a universal theory that is relevant to all startup planning. It would be better described as a conceptual scheme (Gill, 2011). This scheme assumes little or no planning is done at time zero. Little explanation is offered as to the time zero process in support of creating the initial organization. Launch strategy with respect to how the firm is capitalized, organized, and created is nonexistent. Instead, all emphasis is on a lean and accelerated customer-centered product development model. Lean strategy is well suited to deploy and monetize an application or intangible IT service (Ries, 2011). Collis (2016) states that this conceptual scheme can have a dual nature. It is proposed as a solution to prevent the undesired results arising from rigid planning. It also can introduce a cycle of unlimited experimentation (Collis, 2016). Blank et al. (2013) also argue that lean strategy is superior to traditional startup planning because traditional business plans do not include consumer feedback at the initial phase. Blank et al. (2013) claim the lean startup scheme is believed to have transformed the entrepreneurial landscape completely resulting in an unparalleled change in the startup planning paradigm.

Conclusions

The literature review reveals two significant findings. First, practitioners have recently started to attach more emphasis on the time and effort required to produce a traditional startup plan, and they deem it unnecessary and even obstructive for the success of a startup. In addition to this, literature has shown that venture capitalists and other stakeholders are willing to be involved with a startup with no traditional startup plan, or a startup that utilizes lean strategy in lieu of a traditional startup plan. There is a growing and evolving body of work advising that traditional startup planning has become obsolete and unnecessary (see Figure 1). The proponents of this view argue that all the resources must be focused on the customer and frequent iterative cycles of development and testing to identify a monetizable product or scalable service in an expeditious manner. All efforts, energy, and resources are directed to the product development process, as prescribed by the Lean Startup model. Lean literature does not place emphasis on fundamentals such as installing accounting systems, hiring, recruiting, and capital acquisition. On the contrary, the Lean
model assumes ample working capital and the minimum infrastructure, such as accounting, as necessary to develop its product or service.

The second significant finding of the literature review is that there has been a resistance towards traditional startup planning from Mintzberg since the mid-1980s until today. A careful investigation of the evolution of the literature from the perspective of the targeted audience shows that there has been a growing opposition to advising entrepreneurs to channel all their time and effort to a traditional startup plan. In the 1980s and early 1990s, there was a clear commitment to traditional strategic planning for startups. The process included conducting an environmental audit that was followed by defining the mission, objectives, and strategies. The next step was identified as strategy implementation, before evaluation and control. This process was supported by strategic planning champions such as Drucker, Selznick, Andrews, and Porter. This paradigm had evolved over time and was generally accepted by both the academic and the practitioner communities. It was then refined and brought together into a single model by Wheelen and Hunger in the early 1990s (see Figure 2).

Nonetheless, practitioners noticed that the traditional startup business plan derived from this model did not always seem rigorous and relevant. Utilizing the traditional planning models created challenges for the author of the startup plan. First, it begins with a process known as the SWOT audit, which can frustrate the startup planner, and devalues the perceived usefulness of the planning activity by the founder because it aims to audit what does not yet exist (Gut
tman, 2015). Secondly, it distracts the founder and planning team causing them to focus less on sustainability as a key strategic factor. Running out of runway is a common and avoidable cause for the failure of startup enterprises (CB Insights, 2016). This is a key benefit of the Lean Strategy as it places all energy and resources on monetizing a product, and minimizing the time until sustainable break-even cash flow is achieved—thus lowering the risk of running out of working capital.

Lastly, constructing a five-year strategic plan at time zero distracts the founder from the key strategic factors to be implemented in the short-term and needed to accomplish sustainable operations. The plans for growth and profitability that are typical of the “mature” enterprise in later years do not address the actions that create sustainability. Focus on sustainability is a mandate in the early stages of creating a business (Ries, 2011). Often, pivots that occur in the first phase of enterprise formation make long-term plans obsolete within months after they are formulated (Blank et al., 2013). Long-term planning which exploits a competitive advantage can only be effective once the advantage is created and validated. Maximizing profits and scaling revenues cannot be planned effectively until both market experience and break-even sustainability have been accomplished through implementation of the time zero strategy, planned or otherwise.

References


Gonzalez, G. (2017b). Risk analysis for initial needs (RAIN): Improving a time zero startup plan through resource based auditing (RBA) and a launch focused strategy. Muma Business Review, 1(8), 81-95.


---

**Review**

This article was accepted under the constructive peer review option. For further details, see the descriptions at:

http://mumabusinessreview.org/peer-review-options/
**Author**

_Gilbert Gonzalez_ is founder and president of Mission Critical Solutions, Inc., a leading-edge technology solutions provider, and a two-time finalist for the Greater Tampa Bay Chamber of Commerce Small Business of the Year. In 2005, Gonzalez was named the Small Business Person of the Year for Florida by the U.S. Small Business Administration. He is a frequent lecturer at business forums and, in addition to his service at MCS, Gonzalez has published software and case studies related to strategic management and business policy. He received an MBA from University of South Florida (USF) in Tampa, FL, doing so with honors and with concentrations in management of information systems and economics and is currently completing his DBA at USF.
September 21, 2017

To Whom It May Concern:

The purpose of this letter is to serve as confirmation of permission to include reprints of any article or case study published in the Muma Business Review or Muma Case Review open access journals. All publications in both journals are covered by a Creative Commons BY-NC license. Under this license, any published material may be reprinted—in whole or in part—provided that proper attribution is given.

Consistent with open access journal standard practice, the author retains the copyright for his or her work, as note on the cover page of articles in both journals. The only exception to this is when multiple authors makes assigning the copyright administratively complicated; in this case, the journal retains the copyright under the same license.

Yours Sincerely,

T. Grandon Gill, DBA
Editor-in-Chief, Muma Business Review
Professor, Information Systems & Decision Sciences Department
DBA Academic Director
CIS1040
Muma College of Business
University of South Florida
4202 E Fowler Ave.
Tampa, FL 33620
grandon@usf.edu
813-974-6755
What Factors Are Causal to Survival of a Startup?

By Gilbert Gonzalez, University of South Florida

Survival rates for startups in the United States (U.S.) are disappointingly low and economically inefficient. The data shows that the U.S. clearly lags its peer countries in the survival rates of startups. While there has been significant investment and support by communities, government, and private foundations, startup failure rates remain virtually unchanged in the last two decades. In spite of the many years of research in the field of entrepreneurship, U.S. failure rates within the first five years average 53% (DOJ, 2016), regardless of the industry membership or economic cycles (SBA Office of Advocacy, 2012). Identifying factors that are causal and non-causal to the sustainability of emerging businesses is crucial to the founders and stakeholders.

Within this study, both internal and external factors that may be causal to the macro survival rate of U.S. startups were studied. The external factors were studied quantitatively, using data published by the Bureau of Labor Statistics (BLS), Federal Reserve Economic Data (FRED) and the Brookings Institute. A protocol of regression analysis and visual analytics were applied to evaluate the quantitative data. It demonstrated that external factors such as the change in real gross domestic product (RGDP), interest rates, and expansion of accelerators have had no significant effect on U.S. macro startup survival rates. Further, the findings confirm that neither geographic location nor industry membership impacted U.S. macro startup survival rates.

Internal factors were studied qualitatively, using a grounded theory protocol. The qualitative research did uncover three internal factors that were causal to survival of the startups studied. Those internal factors were:

- **Career Autonomy** - The entrepreneurs motivated by career autonomy were significantly more likely to achieve long-term sustainability.
- **Allies** - The entrepreneurs who identify and utilize allies were more likely to survive.
- **Purposeful Margin of Safety model** - Startups whose founders had a rigorous understanding of the margin of safety (MOS) and its underling elements of pricing and break-even analyses were more likely to survive.

This qualitative study provides significant evidence that, when these three causal factors are present, the likelihood of sustainability is high. These findings extend our knowledge on how to improve the probability of sustainability for the firms. This study demonstrates that the U.S. can and should improve its startup survival rates by focusing on the internal factors that are necessary at time zero to ensure sustainability and survival.

Keywords: Business Plan, Sustainability, Startup, Launch, Strategy, Startup Business Plan, Business Model, Business Canvas, Lean Strategy, Lean Canvas, Incubator, Business Creation, Accelerator.

Copyright © 2017, Gilbert Gonzalez. This article is published under a Creative Commons BY-NC license. Permission is granted to copy and distribute this article for non-commercial purposes, in both printed and electronic formats.
Introduction

The Bureau of Labor Statistics data found in Figure 1 for the years from 1994 through 2015 clearly illustrates that the macro survival rates, regardless of industry membership or the strength of the economy, remain virtually unchanged (SBA Office of Advocacy, 2016). This is particularly concerning given the enormous efforts and increased capital investment by practitioners, researchers, and local, state, and federal governments (Hathaway, 2016a).

- Despite the decades of research and prescriptive findings by the academic community, there have been no measurable improvements in the macro survival rates of U.S. startups.
- Despite the enormous increased investment by local, state, and federal governments in accelerator, incubator, educational, and advisory programs, the macro U.S. survival rates are below average when compared to its peer countries.
- Despite the increased availability of entrepreneurial education, the survival rates remain identical for the last two decades.
- During periods of economic expansion and depression, the early survival rates are remarkably similar.

These observations demanded a rigorous investigation into the factors that are causal and non-causal to startup survival. This study used both qualitative and quantitative methods to explore factors that were causal and non-causal to startup survival. The quantitative analysis explored external factors that were suspected of impacting U.S. macro survival rates. The qualitative research studied 23 startups, equally distributed among surviving and failed ventures, investigating internal factors that were causal to their survival or failure.

Review of Research

The literature is rich with broad discussions of entrepreneurship and startups. Davidsson and Gordon (2012) identified three broad categories of work within the literature with respect to new venture creation:

- Characteristics of nascent entrepreneurs
- Antecedents and characteristics of the new venture creation process
- Explaining new venture creation process outcomes

Characteristics of Nascent Entrepreneurs

There is a rich and significant collection of literature as to the origin, nature, and traits of entrepreneurs. There are two competing schools of thought. There are those who believe that entrepreneurs are created in nature, often referred to as nativists. There are also those who believe that, through nurturing, we can increase the number of individuals willing and able to become entrepreneurs, often referred to as empiricists (Gonzalez, 2017b).

Shane makes significant contributions to understanding the nativist position in his many written works, describing the genetic markers that are causal to personality traits that support the behaviors of an entrepreneur. He asserts that a defined portion of the population has a natural pre-disposition for entrepreneurial behavior that cannot be taught (Shane, 2010).

Empiricist researchers disagree, claiming that entrepreneurial students attending classes are out performing the traditional entrepreneurs (Sandberg, 2009). These researchers contend that entrepreneur-
ial education positively moderates entrepreneurial intentions, which causes the students to become career entrepreneurs (Bae, Qian, Miao, & Fiet, 2014; Küttim, Kallaste, Venesaar, & Kiis, 2014).

This discussion of nature versus nurture is weaved into many other similar research questions, case studies, and empirical review studies. In the case study “Where Do Entrepreneurs Come From?”, an impartial review of both schools of thought is provided with supporting research from nativists and empiricists (Gonzalez, 2017b). There is no clear consensus within the literature as to whether nature creates the total supply of potential career entrepreneurs, or if we can expand the total supply of entrepreneurs through nurturing.

Antecedents and Characteristics of the New Venture Creation Process

This area of literature brings to light the disagreement that exists within the startup support community as to the value of a startup business plan and the methodology of creating one. There are three distinct positions within the literature:

- Those who assert that little or no planning is best.
- Those who advise deviation from traditional planning tools and use of “Lean Strategy” to create a launch plan.
- Those who still advise that a traditional written strategic plan is best practice.

Many authors and researchers advocate for writing little or no business plan at all (Brinckmann, Grichnik, & Kapsa, 2010; Gerber, 2010; Gumpert, 2002; Guttmann, 2015). Further research shows that the venture capital community is open to investing in firms with no startup plans (Ashamalla, Orife, & Abel, 2008). Castrogiovanni (1996) argues that many great successes started without business plans. He reported that 51%, or 220, of the Inc. Magazine 500 fast growing firms in 1996 did not have a formal startup plan.

Lead by Eric Ries, The Lean Strategy project has grown and has a large following. Many researchers and advisors advocate this conceptual scheme that emphasizes quick iterations of product development and market testing to learn how to create consumer acceptance and commitment with little or no waste of startup resources (Blank, 2013; Blank et al., 2013; Collis, 2016; Fichter, 2015; Ries, 2011).

Lastly, some researchers argue that traditional startup business plans are best. They assert that traditional planning serves founders in communicating the strategy to employees, investors, and other stakeholders (Bangs, 1998). Zinger asserts that the time delay created by developing the plan benefits the founder, who may otherwise act too quickly without a well thought out strategy (Zinger & LeRasseyre, 2003). Hornozzi, Sutton, McMinn, and Lucio (2002), assert that traditional strategic planning creates objectives and strategies that are crucial to minimizing risk and improving performance.

Explaining New Venture Outcomes

Literature offering empirical observations and hypotheses on how to improve the survival and success of startups is prevalent (Brüderl, Preisendörfer, &

---

**Qualitative Protocol and Methods**

The qualitative element of the research was a grounded theory study. A systematic approach using the procedures as outlined by Strauss and Corbin was undertaken (Corbin & Strauss, 2008a). The interview protocol was designed and submitted to the Institutional Review Board (IRB) for approval. Data collection was conducted by interviewing individuals who had founded startups with both sustainable and unsustainable outcomes. The interviews were coded in search of themes and theory that added understanding to the research question.

The interviews were conducted over approximately 90 days, from February 2017 through April 2017. The interview subjects were all founders or co-founders known to the researcher through academic and business relationships derived from a quarter century career as an entrepreneur. A balance was achieved by selecting both successful and failed startups. The final group was composed of twelve unsustainable startups and eleven sustainable startups. Interviews were conducted until it was determined no new insights or other incremental benefits of additional interviews were expected.

As described by Quinn and Perelli, this study utilized a constant comparison strategy for inductively identifying themes and theory.

“Employing a comparative methodology of data collection and analysis, including the construction of analytic codes for the data and its categorization based on emergent ideas and themes that are not preconceived and logically deduced hypotheses (Glaser & Strauss, 1977; Charmaz, 2006) is a fundamental characteristic of grounded theory. This allows for the generation of theory that is inductively developed throughout the process” (Quinn & Perelli, 2016).
**Constant comparative** was the method chosen—which is taking the information gathered during each iteration and comparing it to emerging categories as a data analysis technique (Creswell, 2007). The first phase, as specified by Strauss and Corbin (2008a), was the *open coding* phase. This coding was done after each interview was completed. As anticipated, major patterns emerged from this phase that drove the second phase, *axial coding*. In this phase, several major categories emerged. The categorical data was then coded, with emphasis on learning specific to the research question of factors causal to startup survival. Lastly, *selective coding* was conducted, which led to the creation of the findings of importance, or themes. The positive themes found in the sustainable firms were further validated by confirming that opposing themes were present in the non-sustainable subjects. Table 1 shows the major themes and their corresponding opposing values that were identified.

**Table 1: Validation by Opposing Variables**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sustainable theme</th>
<th>Non-sustainable theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career autonomy</td>
<td>Founders highly motivated by career autonomy</td>
<td>Career autonomy was not the dominant motivation</td>
</tr>
<tr>
<td>Allies</td>
<td>Strong and active allies</td>
<td>No allies or weak and inactive allies</td>
</tr>
<tr>
<td>Purposeful Margin of Safety model</td>
<td>Detailed understanding of cost and pricing strategy, creating an effective Margin of Safety model</td>
<td>Did not demonstrate understanding of cost, pricing strategy, break-even, or the Margin of Safety model</td>
</tr>
</tbody>
</table>

Further, it was found through the qualitative research that there are at least three factors internal to the startups subjects studied that were causal to survival. Those factors are:

- **Strong motivation for career autonomy**
- **Utilization of willing and able allies**
- **Purposeful Margin of Safety model**

Table 2 lists the combined factors of the qualitative and quantitative study and their corresponding source of evidence.

**Table 2: Findings Table**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Evidence of causality</th>
<th>Evidence of non-causality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraction and expansion of the economy as measured by Real Gross Domestic Product</td>
<td>None</td>
<td>Statistical proof – Regression Analysis and Visual Analytics</td>
</tr>
<tr>
<td>Changes in the cost of capital as measured by the change in the Prime Rate of Interest</td>
<td>None</td>
<td>Statistical proof – Regression Analysis and Visual Analytics</td>
</tr>
<tr>
<td>Industry membership of the startup</td>
<td>None</td>
<td>Visual Analytics</td>
</tr>
<tr>
<td>Geographic location within the United States</td>
<td>None</td>
<td>Visual Analytics</td>
</tr>
<tr>
<td>Stimulus from the change in the number of accelerators</td>
<td>None</td>
<td>Statistical proof – Regression Analysis and Visual Analytics</td>
</tr>
<tr>
<td>Utilization of willing and able allies</td>
<td>Rigorous qualitative evidence</td>
<td>None</td>
</tr>
<tr>
<td>Strong motivation for career autonomy</td>
<td>Rigorous qualitative evidence</td>
<td>None</td>
</tr>
<tr>
<td>Purposeful Margin of Safety model</td>
<td>Rigorous qualitative evidence</td>
<td>None</td>
</tr>
</tbody>
</table>

The combining of the two research methods gives great insight into the relevant factors both internal and external to startups in the U.S. for the twenty-one year period from 1994-2015.
Table 3: Positive, Negative, and Net Themes by Firm.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Sustainable</th>
<th>Unsustainable</th>
<th>Sustainable</th>
<th>Unsustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive themes</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
<td>1 2 3 4 5 6 7 8 9 10 11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative themes</td>
<td>5 5 2 2 1 5 5 1 3 0 0</td>
<td>9 14 2 3 8 5 5 8 5 5 7 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Outcome</td>
<td>10 9 11 8 8 8 9 13 7 12 18</td>
<td>-1 -2 -1 -5 -4 -5 0 -1 -5 -5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ziegler, 1992; CB Insights, 2016a, 2016b; Darbyshire, 2016; Wagner, 2016). Perry articulates that existing research is full of anecdotal findings that more often list symptoms of failure. What is not prevalent are empirical studies that show factors during the start-up formation process that are causal to improved outcomes (Perry, 2001).

**Internal Factors Analysis**

Table 3 is a summary of the positive or negative measures of the three themes for each separate study member. The table is organized into two groups: the eleven sustainable subjects and the twelve unsustainable subjects. For each subject, there is a summary of coded observations that resulted in a categorization in support of a positive or negative outcome related to a given theme. The last line is the net outcome, or the difference between positive observations and negative observations of all themes for the individual study member. The net outcome is presented as a heat map to illustrate that the sustainable firms were net positive in all cases, and the unsustainable firms were net negative in almost all cases. The average net outcome of observations for the sustainable group was 12, with a high of 34 and a low of 7. The average net outcome for the unsustainable group was -3, with a high of 3 and a low of -12. This results in an average difference of 15 units of measure between the sustainable and unsustainable groups. The net margin analysis shows that while all subjects had positive and negative observations, sustainable firms always were heavily weighted with positive observations, while unsustainable firms were weighted with negative observations.

Aggregating the observations for all subjects and organizing them by positive or negative measures demonstrated how the themes affect the survival outcome. Figure 2 shows the distribution of positive and negative observations to each of the three themes, and how they correspond to the firm's survival outcome.

Negative themes were predominately associated with unsustainable subjects, and positive themes were predominately associated with the sustainable firms, as is shown in figure 3. This data shows that

![Type of Theme by Number of Occurrences in Sustainable and Unsustainable Companies](image-url)

**Figure 2: Theme by Number of Occurrences in Sustainable and Unsustainable Companies**
Survival Factors for Startups

Theme by Number of Occurrences in Sustainable and Unsustainable Companies

<table>
<thead>
<tr>
<th></th>
<th>Allies present</th>
<th>Purposeful margin of safety</th>
<th>Autonomous motivation</th>
<th>No allies</th>
<th>No purposeful margin of safety</th>
<th>Not autonomously motivated</th>
<th>Sustainable</th>
<th>Unsustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net autonomously motivated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>No purposeful margin of safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>43</td>
</tr>
<tr>
<td>No allies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Autonomous motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td>8</td>
</tr>
<tr>
<td>Purposeful margin of safety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>64</td>
<td>11</td>
</tr>
<tr>
<td>Allies present</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td>25</td>
</tr>
</tbody>
</table>

Figure 3: Type of Theme by Number of Occurrences in Sustainable and Unsustainable Companies

a total of 296 categorized axial codes were identified in the interview transcripts. Sustainable firms were responsible for 173 of those observations, and unsustainable firms were responsible for 123 of the observations. Sustainable subjects accounted for 152 of the 197 observations that were categorized as a positive measure of a theme. Unsustainable subjects accounted for 78 of the 99 negative measures of the three themes.

Other key observations of interest found in the data:

- 79% of the negative theme occurrences were in unsustainable companies.

**External Factors Analysis**

The findings of the external quantitative study demonstrated that survival rates are not moderated or causal to the following external factors:

- Economic cycle
- Interest rates
- Industry membership
- Geographic location
- Quantity of accelerators

This quantitative research confirmed that real gross domestic product, prime interest rates, and community investment through accelerators and incubators have no meaningful causal relationships to U.S. macro startup survival rates for the first two years. While significant visual analytical data exists to support that, this is also true in years three through five; the limited sample size of the data made it impossible to confirm through regression analysis at this time.

The OLS regression for Years 2, 3, and 4 found no statistical significance for any variables individually or in combination. As shown in Table 4, the coefficients associated with these significant variables for year 1 are so small that no reasonable change in the
Quantitative Protocol

To understand external factors and their potential influence on macro startup survival rates, the following quantitative data was collected and studied. Using well-established third-party data sources and traditional statistical techniques, an analysis of the external factors that were suspected of playing a role in startup survival was completed. The strategy began with visual analytics. The data was viewed in the form of tabular heat maps, and graphical charts and plots in search of any causal relationships that might exist. The data was studied in its reported timing as well as in lagged time series to be certain time did not disguise causal relationships. Lastly, both ordinary least squares (OLS) regression analysis and regression through the origin (RTO) were conducted to confirm that the visual analytics were not missing a subtle relationship of causality.

Data Sources

The following data was collected and studied for the years 1993-2016.

The dependent variables and their sources are:

- Y1: Year 1 survival rates for the 22 years measured by the Bureau of Labor Statistics (BLS, 2016).
- Y2: Year 2 survival rates for the 21 years measured by the Bureau of Labor Statistics (BLS, 2016).
- Y3: Year 3 survival rates for the 20 years measured by the Bureau of Labor Statistics (BLS, 2016).
- Y4: Year 4 survival rates for the 19 years measured by the Bureau of Labor Statistics (BLS, 2016).

The independent variables and their sources are:

- A series of time adjusted growth rates of real GDP from the Federal Reserve Economic Data (FRED).
  - **Series 1: RGPD0** - This series measures the real GDP growth rate of the preceding year without lag.
  - **Series 2: RGPD1** - This series measures the real GDP growth rate of the preceding year with a one-quarter lag.
  - **Series 3: RGPD2** - This series measures the real GDP growth rate of the preceding year with a two-quarter lag.
  - **Series 4: RGPD3** - This series measures the real GDP growth rate of the preceding year with a three-quarter lag.


- A series of time adjusted Prime Interest rates from the Federal Reserve Economic Data (FRED)
  - **Series 1: PRIME0** - This series measures the change in the average prime rate of the preceding year without lag.
  - **Series 2: PRIME1** - This series measures the change in the average prime rate of the preceding year, with a one-quarter lag.
  - **Series 3: PRIME2** - This series measures the change in the average prime rate of the preceding year with a two-quarter lag.
  - **Series 4: PRIME3** - This series measures the change in the average prime rate of the preceding year with a three-quarter lag.


- The Y1 through Y4 data was also evaluated with a time lag to explore if the preceding year performance affected the dependent variable.
  - **Series 1: YILAG** - Year one data lagged by 12 months
  - **Series 2: YILAG2** - Year two data lagged by 12 months
  - **Series 3: YILAG3** - Year three data lagged by 12 months
  - **Series 4: YILAG4** - Year four data lagged by 12 months

Source: Brookings Institute (2016)

Quantitative Methods

The first level of analysis involved regressing the Y1 (year one survival data) against each of the individual data series. All series of the RGDP were regressed establishing that RGPD2 had the best fit. Next, the
Prime Interest data was added to the earlier regression. All four series of data were tested to determine the best fit. The PRIME3 series significantly increased the $R^2$, with the p value less than .05, confirming significance. The adjusted R Squared ($R^2_a$) indicated that RGDP2 and PRIME3 derived the best fitting model, with a p value less than .05 for both variables.

Next, the series of data that measured the number of accelerators, ACCEL, was added to the regression. While this increased the $R^2$, it was not statistically significant, and it eliminated the statistical significance of PRIME3, driving the p value too high to allow for selection as a variable. Further, modeling with the data included replacing ACCEL with the log of ACCEL to test whether the logarithmic shape was a better fit. This change did not improve the model, as the adjusted $R^2$ noticeably decreased. The principle of parsimony drove the decision to drop ACCEL and keep RGDP2 and PRIME3.

Lastly, the series of data that lagged the prior year's survival was tested using regression through the origin (RTO) (Eisenhauer, 2003). The impact of adding the prior year survival results replicated the coefficient values for year 1 and established values for the first time for years 2, 3, and 4. It should be noted, the $R^2$ is no longer useful in this analysis and was not considered (Eisenhauer, 2003).

Thus, we settled on four models below, as they best described the relationship of the unique dependent variables and the corresponding independent variables. There is one model deemed the best fit for each separate length of survival as a dependent variable.

\begin{align*}
Y_1 &= \alpha + \beta_1 \text{RGDP2} + \beta_2 \text{PRIME3} + \mu \\
Y_2 &= \beta_1 Y_{1,t-1} + \beta_2 \text{RGDP2} + \beta_3 \text{PRIME3} + \mu \\
Y_3 &= \beta_1 Y_{2,t-1} + \beta_2 \text{RGDP2} + \beta_3 \text{PRIME3} + \mu \\
Y_4 &= \beta_1 Y_{3,t-1} + \beta_2 \text{RGDP2} + \beta_3 \text{PRIME3} + \mu
\end{align*}

### Table 4: OLS Regression Results by Survival Age

<table>
<thead>
<tr>
<th>OLS Regression Results by Survival Age</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted $R^2$</td>
<td>.745</td>
<td>0.274</td>
<td>0.114</td>
<td>0.012</td>
</tr>
<tr>
<td>RGDP2 Coefficient</td>
<td>0.596</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>P Value RGDP2</td>
<td>&lt;.001</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>PRIME3 Coefficient</td>
<td>-0.302</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>P value Prime3</td>
<td>&lt;.001</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Intercept</td>
<td>.7889</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

An independent variable would result in a change in the dependent variable, survival, greater than 1%. Our data satisfied the conditions for RTO as the survival rate of the previous year allowed for the possibility of a regression that intersected the origin point (0,0) (Eisenhauer, 2003). Table 5 shows the regres-

### Table 5: Regression Through the Origin Results by Survival Age

<table>
<thead>
<tr>
<th>Regression Through the Origin Results by Survival Age</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted $R^2$</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>RGDP2 Coefficient</td>
<td>0.596</td>
<td>0.350</td>
<td>0.282</td>
<td>0.228</td>
</tr>
<tr>
<td>P Value RGDP2</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>PRIME3 Coefficient</td>
<td>-0.302</td>
<td>-0.261</td>
<td>-0.224</td>
<td>-0.210</td>
</tr>
<tr>
<td>P value Prime3</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Intercept</td>
<td>.789</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Year X lag</td>
<td>N/A</td>
<td>.867</td>
<td>0.894</td>
<td>0.910</td>
</tr>
<tr>
<td>P value of Year X lag</td>
<td>N/A</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
sion results for all four years using RTO. While this analysis did report statistical significance of RGDP2 and PRIME3 for all four years, the coefficients of the independent variables were once again too small to create a meaningful change in the dependent variable, U.S. macro survival rates. Any change in RGDP2 and PRIME3, within the 95% confidence interval range, would result in a less than 1% change in survival rates.

Figure 4: Survival by State (Source: Bureau of Labor Statistics)
Startup Survival Rates Were Unchanged by Geographic Location

The BLS also makes available firm survival rates at the statewide and industry membership levels. This allows us to analyze trends in the survival rates of newly formed firms by geographic location and industry group. Analyzing the charts in Exhibit 4, one can see there is little or no fluctuation in survival rates year over year.

Figure 4 shows the average survival rates for the period 1994 to 2015, broken out by state, plus Washington D.C. The chart demonstrates the lack of variability in the survival rate regardless of state. This reaffirms the 1990 study by Buss and Lin, who also found that survival rates are similar for rural and urban areas (Buss & Lin, 1990).

Startup Survival Rates Were Unchanged by Industry Membership

Figure 5 visually demonstrates the survival ratings of startups from 1994 to 2015, for the first four years of existence, across nineteen different industries. The similarities of the column sizes visually demonstrate the consistent survival rates, regardless of industry membership. This conclusion was also made by the SBA in their 2012 publication, "For employer businesses, survival rates as businesses age followed similar patterns for manufacturing, retail trade, food services & hotels, and construction." The SBA further noted that "it is also surprising that the real estate crash seems not to have affected the construction industry at about year five or six" (SBA Office of Advocacy, 2012).

Startup Survival Rates Were Unchanged by Market Interest Rate Change

Figure 6 demonstrates that between 1994 and 2015 the U.S. experienced significant fluctuations in interest rates. Once again regardless of the fluctuations in the prime rate of interest, survival rates were constant and unchanged. Regression analysis did show a statistical significance with respect to survival rates, however, the coefficient was so small that any reasonable change will result in less than 1% change in predicted survival rates.

![Survival By Industry membership](image)

Figure 5: Survival by Industry Membership (Source: Bureau of Labor Statistics)
Figure 6: Prime Rate and Years 1–4 Survival Rates (Source: U.S. Bureau of Economic Analysis, Bank Prime Loan Rate (MPRIME), Retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MPRIME, June 16, 2017 and the U.S. Bureau of Labor Statistics)

Startup Survival Rates Were Unchanged by Increase in Accelerators

The increase in organizations such as accelerators and incubators was significant during the 1994–2015 period (Hathaway, 2016a). Figure 7 shows there were no accelerators in existence prior to 2005, but the expansion in accelerator programs since 2005 has been remarkable. None the less, the trends in the U.S. macro survival rates of new firms remained unchanged, demonstrating that these organizations did not have a meaningful impact on macro startup survival rates. Regression analysis found no significant correlation between the number of accelerators and incubators and U.S. macro survival rates.

Figure 7: Accelerators and Years 1–4 Survival Rates (Source: Metropolitan Policy Program at Brookings (Hathaway, 2016b) and the U.S. Bureau of Labor Statistics)
RGDP, survival rates were constant and unchanged. Regression analysis did show a statistical significance with respect to U.S. macro survival rates; however, the coefficient was so small that any reasonable change would result in less than 1% change in predicted U.S. macro survival rates.

**Discussion**

**Evidence of the Opportunity to Improve**

The United States ranks in the bottom third of its peers for startup survival rates during the first five years. The U.S. five-year survival rate is thirteen percentage points below Sweden. Sweden ranked highest in the rate of survival for startups for the first five years of founding, as seen in Table 6. Sweden’s survival rates are significantly higher than the U.S. and the twelve other European countries reviewed. Portugal was notably last for all five measurements. As seen in Table 6, Sweden had notably higher average survival rates than the U.S. and many of its European peers at each of the five measures. Sweden’s success is empirical evidence of the opportunity for the United States and the other nations to improve.

**Intra-country Survival Rates Are Remarkably Consistent**

The charts found in Figure 9 show a comparison of the startup survival data from 2008 through 2014 for Austria, Germany, Spain, Finland, France, Italy, Luxembourg, Netherlands, Norway, Portugal, Sweden, U.K., Slovenia, and the U.S. The data for countries other than the U.S. was obtained from the Eurostat tables. Eurostat is the European Union’s statistical aggregator. The data for the survival rates of the U.S. was sourced from the Bureau of Labor Statistics.

"In short, no matter how you measure new firms, and no matter which developed country you look at, it appears that only half the new firms started remain in business for five years, and less than one-third last ten years" (Shane, 2008).

**Table 6: Heat Map – Survival Rates by Country and Firm Age**

<table>
<thead>
<tr>
<th>Survival</th>
<th>United States</th>
<th>Sweden</th>
<th>Netherlands</th>
<th>UK</th>
<th>Slovenia</th>
<th>Luxembourg</th>
<th>Austria</th>
<th>France</th>
<th>Italy</th>
<th>Norway</th>
<th>Finland</th>
<th>Spain</th>
<th>Germany</th>
<th>Portugal Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Year</td>
<td>78.0</td>
<td>91.5</td>
<td>92.1</td>
<td>93.2</td>
<td>90.9</td>
<td>88.4</td>
<td>83.4</td>
<td>82.7</td>
<td>82.5</td>
<td>80.8</td>
<td>77.5</td>
<td>76.7</td>
<td>70.4</td>
<td>84.2</td>
</tr>
<tr>
<td>Two Years</td>
<td>68.7</td>
<td>92.2</td>
<td>75.3</td>
<td>67.6</td>
<td>71.4</td>
<td>68.7</td>
<td>68.1</td>
<td>69.5</td>
<td>62.2</td>
<td>61.0</td>
<td>56.8</td>
<td>56.4</td>
<td>51.9</td>
<td>49.9</td>
</tr>
<tr>
<td>Three Years</td>
<td>58.9</td>
<td>76.0</td>
<td>63.9</td>
<td>57.5</td>
<td>67.4</td>
<td>68.7</td>
<td>69.5</td>
<td>62.2</td>
<td>61.0</td>
<td>55.8</td>
<td>56.8</td>
<td>54.7</td>
<td>51.9</td>
<td>39.4</td>
</tr>
<tr>
<td>Four Years</td>
<td>52.5</td>
<td>67.6</td>
<td>66.4</td>
<td>57.8</td>
<td>60.6</td>
<td>60.9</td>
<td>64.1</td>
<td>56.4</td>
<td>63.9</td>
<td>47.2</td>
<td>52.9</td>
<td>48.0</td>
<td>45.0</td>
<td>33.9</td>
</tr>
<tr>
<td>Five Years</td>
<td>47.5</td>
<td>66.9</td>
<td>50.0</td>
<td>39.7</td>
<td>54.8</td>
<td>54.6</td>
<td>50.0</td>
<td>56.0</td>
<td>46.0</td>
<td>40.9</td>
<td>40.9</td>
<td>42.9</td>
<td>39.7</td>
<td>32.2</td>
</tr>
</tbody>
</table>

Data collected from 2008-2014 for Years 1 through 4, Year 5 is 2009-2014
Source: BLS, FRED, Eurostat
Figure 9: Years 1–5 Startup Survival Rates by country (2008–2014) (Source: Bureau of Labor Statistics and Eurostat)
Survival Factors for Startups

While there is variation in the startup survival rates from nation to nation, intra-country survival rates year over year are statistically identical for all the countries reviewed. This pattern of static survival rates is not unique to the United States. The data shows similar patterns of static survival rates for other developed economies (Shane, 2008).

The Bureau of Labor Statistics reports the business survival rates as a by-product of tracking quarterly nationwide gross job gains and losses (BLS, 2016). Beginning in 1994 and continuing to the present day, the BLS has provided data on the year-by-year firm survival rates. It uses firms which reported positive employment for the first time as the unit of measure to remove legal entities that were not created with the intent of founding a business, often referred to as holding companies.

It is remarkable that the survival rates are similar, year over year, considering the significant economic events that took place. During this twenty-one-year period, the United States experienced two recessions, the 2001 recession and 2007–2008 great recession. The 2007–2008 recession was the most severe retraction since the first great depression of 1929. During this same period, the U.S. also experienced both the dot-com boom and housing boom, as well as the banking crisis of 2008. Notwithstanding these events, survival rates of newly formed businesses remained remarkablyunchanged year over year. The SBA has reported similar conclusions: “About half of all new establishments survive five years or more, and about one-third survive 10 years or more” (SBA Office of Advocacy, 2012). The SBA also reported that “A negative economy has little effect on a given business’s survival” (SBA Office of Advocacy, 2012). “Businesses started in expanding economies in 1995 and 2005, those started just before the downturn in 2000, and those started just after the downturn had almost identical survival paths” (BLS, 2016).

Shane effectively summarizes these conclusions in a passage from his 2008 book, “These patterns are amazingly consistent across cohorts of new firms. The one-, two-, three-, and four-year failure rates of new single establishment firms founded in 1997 are identical to the one-, two-, three-, and four-year failure rates of new single establishment firms founded in 1992, and the five-year failure rate is only 1 percent higher. Moreover, the failure rates of the 1989 to 1992 cohorts of new employer firms over their first six years differ from each other by only 1 or 2 percent, and are almost identical to the failure rates for the 1992 to 1997 cohorts of new single establishment firms. And studies using data drawn from Dun and Bradstreet files for new firms founded between 1977 and 1978, different years of the Census Business Owners, other census data on new businesses founded in 1982, and new employer firms founded in Michigan all show very similar survival patterns” (Shane, 2008).

A summary of external environmental factors and their impact on macro startup survival rates demonstrates that, to date, there has been no causal or correlated relationship between the external societal or tasks environment and survival rates. The data and relevant findings show that, while real GDP, net interest rates, and the number of accelerators and incubators changed frequently and drastically from 1994 to 2015, startup survival rates had no significant change. This holds true in the U.S. from 1994 to 2015. Regardless of geographic region or industry membership, survival rates remain similar for the last two decades. Intra-country survival rates for our European peers have also not experienced significant change for two decades.

While there has been expansive investment by communities and private sources in education, incubation, and acceleration, there is no change to survival rates of the nation’s startups. The international data demonstrated that improvement is a reasonable and attainable goal. The Swiss and other European countries are outperforming the U.S. with regards to macro startup survival rates.

Conclusions

The synergy of the qualitative and quantitative research gives great insight into the relevant internal and external factors to the macro startup survival rate in the United States for the twenty-one year period from 1994 to 2015. The finding of causality within the qualitative study appears to be supported by existing theory. The finding of career autonomy as causal is directly explained by Goal Setting Theory. The impact of setting a goal to achieve career autonomy resulted in a high probability of survival. When the goal of autonomy was weak or nonexistent, the probability of survival falls. Goal Setting Theory also supports the finding of causality between survival and margin of safety. Specifically, the study’s finding was that, if the founder had a purposeful revenue and cost goal, survival was more likely.

Resource Based Theory would predict that the introduction of one or more powerful allies, willing and able to share their resources, creates a competitive advantage—removing risk and enhancing the probability of survival. One may alternatively argue that the relationship between allies and survival is a
separate and unique observation not supported directly by existing theory. The identification of and engagement with allies to achieve a goal too large for a single initiating force could be a potential standalone paradigm for success in goals of extraordinary scale and complexity. Allies may, in fact, be a theoretical model to overcome adversity and achieve complex outcomes not possible by a single entity’s own actions. The name itself suggests the examples of countries aligning to accomplish military success that would be overwhelming for any one nation alone. It is possible this theme of allies is grounded in a theory of its own that aggregates the resources of those with a common goal who might not be able to achieve success alone.

Summary of Findings

Finding 1: Entrepreneurs motivated by career autonomy are significantly more likely to establish long term sustainability.

Desire for career autonomy was a strong and prevalent theme in the sustainable founders interviewed. This motivation was stronger than competing motives for the founders of sustainable firms. Autonomy was causal to founders choosing to pivot instead of closing when the initial business model was ineffective. Autonomy created the value necessary for these founders to accept the risk of a startup. In founders that were unsustainable, it was not unusual for them to choose to close the business for better or different opportunities. Trading autonomy for improved income, status, or safety was acceptable and comfortable for some unsustainable founders. In some cases, the study showed that they are entrepreneurs of necessity, and that a lack of short term options drove the decision to found the business. Once a better option became available, the decision to close the business was an easy choice for these founders. This evidence that some businesses are unsustainable simply because the founder prefers not to continue voluntarily. A strong desire for autonomy greatly improves the probability of survival by enhancing the odds the founder will endure challenges and pivot through tough times until a business model evolves that is sustainable in the long term.

Finding 2: Entrepreneurs who identify and utilize allies are more likely to survive.

Sustainable businesses had one or more ally. For this work, allies are defined as individuals willing and able to provide key resources to the startup without interest in profit or fee. Examples found in the study included a spouse who carried the burden of household income during the launch, and a parent who loaned capital, or provided free labor to assist the founder in the early days. Allies could also be industry colleagues who sponsored and supported the founder despite being new and unproven. In one example, a founder shared that a landlord, who was his ally, agreed to lease a large warehouse to his firm, despite the reality that the firm was not credit worthy. Customers can also be very powerful allies. Customers who not only intentionally support the new business with their own patronage, but assist in marketing and referring others as well, are vital to sustainability.

All resources needed must be sourced either from the founder or their allies prior to a positive launch decision. Matching the resource needs with sources is causal to improving the probability of sustainability through the removal of avoidable risk and mitigation of inescapable risk (Gonzalez, 2017a). Often unsustainable businesses had few or no allies. In some cases, they had people trying to assist, but the potential ally lacked the ability to share the resources the business needed. To be an ally, the individual must be both willing and able.

Finding 3: Startups whose founders design and understand a margin of safety (MOS) in the initial business model are more likely to survive.

For a startup to survive, it must achieve positive cash flow before it runs out of working capital. To accomplish this in a purposeful way, the founder must have a clear understanding and attainable strategy to achieve a margin of safety for the new venture. Benjamin Graham and David Dodd coined the term “margin of safety” in 1934 in their book Security Analysts (Graham & Dodd, 2009). Margin of safety is defined as the difference between the expected (or actual) sales level and the break even sales level. It can be expressed in the equation form below:

Margin of Safety = Expected (or) Actual Sales Level (quantity or dollar amount) - Breakeven Sales Level (quantity or dollar amount)

To have a purposeful strategy and ensure a sufficient margin of safety, the founder must have a complete understanding of the revenue model, pricing, and forecasted volume. The founder must also understand the fixed and variable costs. Accurately forecasting revenue and total cost, the startup can ensure it meets or exceeds sustainable break-even operations. The purposeful creation of this pricing and cost strategy, or margin of safety model, was found in all the sustainable firms studied. Unsustainable firms often did not demonstrate an understanding of their margin of safety, often not appearing to be aware of the revenue or cost side of their initial business model.

Finding 4: Real GDP has had no material causal effect on macro survival rates of startups in the United States for the period of 1994-2015.
Finding 5: Interest rates have had no material causal effect on macro survival rates of startups in the United States for the period of 1994-2015.

Finding 6: The quantity of accelerators has had no causal effect on macro survival rates of startups in the United States for the period of 1994-2015.

Finding 7: Geographic location has had no material causal effect on macro survival rates of startups in the United States for the period of 1994-2015.

Finding 8: Industry membership has had no material causal effect on macro survival rates of startups in the United States for the period of 1994-2015.

While real GDP, interest rates, and the number of accelerators and incubators changed frequently and drastically from 1994–2015, startup survival rates had no significant changes. Regardless of geographic region or industry membership, survival rates in the U.S. and abroad experienced no significant changes for two decades.

Table 8 lists the combined factors of qualitative and quantitative studies and their corresponding methods of evidence.

This study brings to light many topics for future research to address. Further exploration into what, if any, impact the synergistic effects of these three causal variables have on survival of the startup is needed. A better understanding of the relationship of high versus low margin of safety design and its effect on survival is necessary. A study of allies as a standalone theory for success versus allies as a moderator of Resource Based Theory is deserving of further attention from the research community. Additional research should be done to determine how to measure the motivation for career autonomy. Exploration into the relative risk of startup survival when the desire for career autonomy is not strong should also be undertaken. The impact of understanding the relationship between the desire for career autonomy and survival could lead to improved methods of acceptance criteria for accelerators and incubators.

Understanding why some countries have better macro survival rates than the United States can greatly enhance the nation’s economic strategy in the coming years. Further, exploration into why Sweden is achieving higher relative survival rates than the U.S. and its European peers is particularly intriguing.

Lastly, more research must be done with respect to startup planning and innovations for improved planning. Researchers must answer the question: Why are these new planning models not improving the macro survival rates of the nation’s startups? Future research on improved startup planning methodologies that are broad based actionable strategies in lieu of the recent lean conceptual schemes would be beneficial. Action research developing and prescribing improved startup planning methods with a short-term focus during the incubation phase of the startup, that could improve survival through the leverage of allies, purposeful margin of safety design, and the desire for career autonomy is needed.

The effectiveness of future community investment such as accelerators and incubators, improved planning methods, and the success of the entrepreneurial education programs all must be measured through demonstrated improvement in the macro survival rate of U.S. startups in the future.

### Table 8: Summary of Evidence.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Evidence of causality</th>
<th>Evidence of non-causality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contraction and expansion of the economy as measured by Real Gross Domestic Product</td>
<td>None</td>
<td>Statistical proof - Regression Analysis and Visual Analytics</td>
</tr>
<tr>
<td>Changes in the cost of capital as measured by the change in the prime rate of interest</td>
<td>None</td>
<td>Statistical proof - Regression Analysis and Visual Analytics</td>
</tr>
<tr>
<td>Industry membership of the startup</td>
<td>None</td>
<td>Visual Analytics</td>
</tr>
<tr>
<td>Geographic Location within the United States</td>
<td>None</td>
<td>Visual Analytics</td>
</tr>
<tr>
<td>Stimulus from the change in the number of accelerators</td>
<td>None</td>
<td>Statistical proof - Regression Analysis and Visual Analytics</td>
</tr>
<tr>
<td>Utilization of willing and able allies</td>
<td>Rigorous qualitative evidence</td>
<td>None</td>
</tr>
<tr>
<td>Strong motivation for career autonomy</td>
<td>Rigorous qualitative evidence</td>
<td>None</td>
</tr>
<tr>
<td>Purposeful Margin of Safety model</td>
<td>Rigorous qualitative evidence</td>
<td>None</td>
</tr>
</tbody>
</table>
References
CB Insights. (2016a). The-20-Reasons-Startups-Fail. Retrieved from https://www.cbinsights.com/research-reports/The-20-Reasons-Startups-Fail.pdf?utm_source=hs_automation&utm_medium=email&utm_content=24695183&hsenc=p2ANqtz-8-LGcYVY9ZPlzwen2V0pCY-QcKhKliz9g9EE2yZ9dgDxL0gbcss0kaBY-
dQ-A7N2UuVzZqXUlwiiWQ2ZQjwvR0cNi5N
nCegh_hsmi=24695183
Gonzalez, G. T. (2017a). Risk analysis for initial needs (RAIN): Improving a time zero startup plan through resource based auditing (RBA) and a launch focused strategy. Muma Business Review, 1(8), 81-95.


Review

This article was accepted under the constructive peer review option. For further details, see the descriptions at:
http://mumbusinessreview.org/peer-review-options/

Author

Gilbert Gonzalez is founder and president of Mission Critical Solutions, Inc., a leading-edge technology solutions provider, and a two-time finalist for the Greater Tampa Bay Chamber of Commerce Small Business of the Year. In 2005, Gonzalez was named the Small Business Person of the Year for Florida by the U.S. Small Business Administration. He is a frequent lecturer at business forums and, in addition to his service at MCS, Gonzalez has published software and case studies related to strategic management and business policy. He received an MBA from University of South Florida (USF) in Tampa, FL, doing so with honors and with concentrations in management of information systems and economics and is currently completing his DBA at USF.

Volume 1, Number 9
September 21, 2017

To Whom It May Concern:

The purpose of this letter is to serve as confirmation of permission to include reprints of any article or case study published in the Muma Business Review or Muma Case Review open access journals. All publications in both journals are covered by a Creative Commons BY-NC license. Under this license, any published material may be reprinted—in whole or in part—provided that proper attribution is given.

Consistent with open access journal standard practice, the author retains the copyright for his or her work, as note on the cover page of articles in both journals. The only exception to this is when multiple authors makes assigning the copyright administratively complicated; in this case, the journal retains the copyright under the same license.

Yours Sincerely,

T. Grandon Gill, DBA
Editor-in-Chief, Muma Business Review
Professor, Information Systems & Decision Sciences Department
DBA Academic Director
CIS1040
Muma College of Business
University of South Florida
4202 E Fowler Ave.
Tampa, FL 33620
grandon@usf.edu
813-974-6755
APPENDIX C

Risk Analysis for Initial Needs (RAIN): Improving a Time Zero Startup Plan through Resource Based Auditing (RBA) and a Launch Focused Strategy

By Gilbert Gonzalez, University of South Florida

The case has been made that successful startups are beneficial to all stakeholders in the community, while startups that fail to sustain create significant costs, both actual and opportunity, for both themselves and the community. Depending on the source and the time frame referenced, emerging business failure rates range from 50% to 80% (BLS, 2016). This figure demonstrates the disappointing inefficiency of startups. What is not clear is whether the high failure rate, which has come to be accepted, is necessary. The creation of RAIN was motivated by the desire to seek a solution to the business problem of continuously high failure rates through improved startup business planning. RAIN improves the startup business plan by replacing traditional environmental auditing with resource-based auditing (RBA), and focusing on sustainability and scalability during the post-launch incubation period. Using the RAIN startup planning model at time zero and throughout the early stages of the business lifecycle should improve sustainability and encourage founders to embrace developing and using startup plans. Experts agree that entrepreneurial enterprises are creators of economic growth. In fact, a recent study by Guzman and Stern (2016) looked at the attributable growth for a community based on the quality of the startups. It was found that “a doubling of the entrepreneurial quality predicts an increase of 6.8% in GDP in 11 years” (Frick, 2016). This study emphasizes the need for more successes, rather than more startups. “We’ve long known that new businesses matter to the economy and that it’s a small group of fast-growing firms that matter most, because of the jobs and innovation they bring” (Frick, 2016). Founders, investors, creditors, incubators, government programs, and entrepreneurial education programs all benefit from improving the sustainability rate of startups. These benefits include job creation, debt default minimization, and expanded economic growth through the multiplier effect of the surviving business entity (Guzman & Stern, 2016). Improving the success rate of new businesses through improved time zero planning will have positive consequences for the community and economy.

Using the Risk Analysis for Initial Needs (RAIN) planning model and its resource-based audit (RBA) tool to support the creation of a time zero startup business plan will improve the perceived value of the startup plan to founders and stakeholders by identifying gaps between the needs and availability of the needed resources at time zero.

Keywords: Audit, Startup Plan, Planning, Business Plan, Entrepreneur, Venture Capital, Private Equity, Risk, Resource, Business Model, Business Canvas.

Copyright © 2017, Gilbert T. Gonzalez. This article is published under a Creative Commons BY-NC license. Permission is granted to copy and distribute this article for non-commercial purposes, in both printed and electronic formats.
Introduction
Research shows that there is a persistent and pervasive failure rate of new businesses at a rate of 50% to 80%, depending on the time studied (BLS, 2016). For the last several decades, regardless of the strength of the economy, attractiveness of the industry sector, interest rates, unemployment, and third party investment in startup support—the failure rates remain consistent and high (Gonzalez, 2017a). Some researchers argue that poor or no planning is causal to the high failure rate of startups (Baker, Addams, & Davis, 1993; Gollwitzer, 1999). However, some practitioners assert that traditional startup planning is of little or no value (Gerber, 2010; Gumpert, 2002; Guttman, 2015). Exploring the objections of those founders and advisors longitudinally brings to light the need to improve the methodology of startup business planning (Gonzalez, 2017).

The Evolution of Startup Business Planning
The academic literature and practitioner writings on startup businesses are well established (Brinckmann, Grichnik, & Kapsa, 2010). These studies have particularly proliferated over recent years as the emphasis on the success of startup businesses has increased. However, there is still dissent in terms of the advice and guidance being offered with respect to the necessity of a business plan, both in the academic and practitioner literature. Specifically, there are several studies on both sides which question and debate the value of a business plan at time zero, otherwise referred to as a startup business plan (Barrow, Barrow, & Brown, 2015).

The evolution of startup planning, business planning, and environmental auditing in support of planning has created a body of work that is mature and rich. Business planning and startup planning continues to evolve and build on the work of the past. The history of auditing and startup business planning can be traced to the early 1950s. Startup planning is the first iteration of business planning responsible for establishing a sustainable and scalable business model at time zero.

Startup practitioners and researchers have demonstrated resistance to using traditional planning...
models. A careful investigation of the evolution of planning through the relevant literature, from the perspective of the target audience, shows that for the last decade there has been a growing opposition to advising entrepreneurs to channel all of their time and effort into a traditional startup plan (Gonzalez, 2017b).

In the 1950s, Smith and Christensen set out to study how organizations related to their external environments and their approach would later become the foundation for SWOT analysis. In 1957, Andrews argued that organizations should adopt clear objectives to be competitive and successful. Auditing was introduced by Kenneth Andrews in 1963 as an antecedent to developing a business plan. During a business policy conference held at Harvard in 1963, SWOT analysis was discussed openly and identified as an essential strategic planning tool. SWOT was developed as an audit tool to analyze case studies by the participating researchers through collaboration by Learned et al. in 1965 and the summation of research at the Harvard Business School. After the study was concluded by Learned et al., there was widespread adoption of the planning model by business schools nationally (Chermack & Kashanna, 2007; Learned, Christensen, Andrews, & Guth, 1965). As a result, a focus on organizational strengths and weaknesses in the context of opportunities and risks emerged during this era (Mintzberg, 1994).

This development led the way to the traditional business planning process, which included conducting an environmental audit (SWOT). Defining the mission, objectives, and strategies of the business followed the audit. The next step was strategy implementation, followed by evaluation and control (Wheelen & Hunger, 1998). Strategic planning champions such as Drucker, Selznick, Andrews, and Porter advocated this process. This paradigm had evolved from the early 1950s through the mid-1990s and was generally accepted by both the academic and practitioner communities. It was then refined and brought together into a single model by Wheel- en and Hunger in the early 1990s.

Led by Eric Ries, The Lean Strategy has grown and has a large following. Many researchers and advisors advocate this conceptual schema that emphasizes quick iterations of product development and market testing to learn how to create consumer acceptance and commitment with little or no waste of startup resources (Blank, 2013; Blank et al., 2013; Collis, 2016; Fichter, 2015; Ries, 2011). Lean supporters recommend not conducting an environmental audit or creating a traditional business plan to avoid resource waste (Blank, 2013; Blank et al., 2013; Collis, 2016; Fichter, 2015; Ries, 2011). A key benefit of differentiator of lean strategy is that it places all startup energy and resources on monetization model development to minimize the time until sustainable break-even cash flow is achieved, thus lowering the risk of running out of working capital (Ries, 2011). The next evolution in startup planning is to recognize the value in resource based auditing (RBA) and startup business model design through RAIN driven startup planning. RAIN is a planning paradigm that makes startup planning relevant and meaningful for the founder at time zero.

**How Businesses Grow**

In order to understand RAIN and how it differs from other startup planning techniques, one must first understand how businesses grow and how their needs change from inception to maturity. Numerous papers and studies have been done on the stages of business evolution. Most researchers agreed that there are between five and seven stages. One of those researchers, James Fischer, conducted a nine-year study of entrepreneurial companies. This qualitative study was conducted in order to understand and decipher the patterns, behaviors, and characteristics of growth in entrepreneurial enterprises. His study demonstrated seven distinct stages of growth in entrepreneurial companies. The stages of growth, as defined in Table 1, were based on interviews with over 700 CEOs (Fischer, 2006).

**Challenges and Themes in Each Phase**

It is important to recognize the common themes and challenges at each stage of a growing business to better understand the best practices for planning and strategy formation. Planning during early stages necessitates shorter time horizons, greater flexibility, and shortened periods of evaluation and control. Often, the pivots needed in the early stages make out year planning ineffective as the business model is refined and improved. It is not until there is a sustainable and scalable model that long term plans (3 to 5 years) are identifiable and useful (Blank, 2013).

**Startup Planning and Business Model Design (Stage I and II)**

**Stage I: Survival.** The first stage is about survival, which means obtaining customers and making sales. The challenges include limited cash flow, insufficient capital, and limited labor. In this phase, there are periods of chaos and confusion. Sales growth is
### Table 1: Fischer’s Stages of Growth Summary

<table>
<thead>
<tr>
<th>Stage</th>
<th>Theme</th>
<th>Staff size</th>
<th>Minimum revenue size</th>
<th>Typical organizational style</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Survival</td>
<td>1–10</td>
<td>Less than $1 million</td>
<td>Flat</td>
</tr>
<tr>
<td>II</td>
<td>Ramp Up</td>
<td>11–19</td>
<td>$1 million to $2 million</td>
<td>Functional</td>
</tr>
<tr>
<td>III</td>
<td>Delegation</td>
<td>20–34</td>
<td>$2 million to $4 million</td>
<td>Functional</td>
</tr>
<tr>
<td>IV</td>
<td>Professional</td>
<td>35–57</td>
<td>$4 million to $6 million</td>
<td>Functional</td>
</tr>
<tr>
<td>V</td>
<td>Integration</td>
<td>58–95</td>
<td>$6 million to $10 million</td>
<td>Functional or Divisional</td>
</tr>
<tr>
<td>VI</td>
<td>Strategic</td>
<td>96–160</td>
<td>$10 million to $20 million</td>
<td>Divisional</td>
</tr>
<tr>
<td>VII</td>
<td>Visionary</td>
<td>161–500</td>
<td>$20 million and up</td>
<td>Divisional or Matrix</td>
</tr>
</tbody>
</table>

Source: Fischer (2006)

still the heavy focus for the founder. Sustaining sales momentum and reinvesting earnings are the keys to graduating from this phase.

**Stage II: Ramp up.** In Stage two, ramping up is the theme. The key challenges still include cash and capital limitations. But now, hiring and leadership challenges come into the mix as well. Identifying and recruiting quality staff while driving sales growth is a heavy burden. Retaining and reinvesting earnings are priorities to prepare for growth.

**Traditional Strategic Planning (Stage III-VII)**

*Stage III: Delegation.* Delegating is a vital theme in stage three. This stage is the end of the RAIN startup plan and the beginning of traditional strategic planning. The goal is no longer incubation, but rather acceleration and scale. The key challenges center around the increased staff and their needs. Delegation of authority is important, and business process design is needed to provide new staff with procedures and guidelines. The founder is still highly visible, but now the enterprise is led by a middle management team. Emphasis is placed on establishing core values and corporate culture.

*Stage IV: Professionalism.* In stage four, the theme is building a professional organization. The key challenges are developing a proper culture, improving project management skills, avoiding employee turnover, and implementing the business processes established in earlier phases. The beginnings of an executive management team form. Longer term planning and forecasting are now priorities.

*Stage V: Strategic Integration.* In stage five, the theme is integrating. Human capital is the major challenge. The onboarding of new employees is now critical to sustained quality. Growth and scale depend on the ability to scale the staff without impacting customer satisfaction and retention. The ability of new staff to perform is paramount to scaling revenues. Training the team in this stage is imperative. The process and procedures developed in early stages are tested and refined. A mature business model is now in place and must be maintained and enhanced.

*Stage VI: Strategic.* Upon entering Stage six, being strategic and purposeful is the theme. The key challenges evolve around staff augmentation and development. Employee retention is critical to efficiency and effectively sustaining growth. Maintaining the culture with the wave of new employees is important. Process and procedures need to evolve, as the growth of new employees and scale make obsolete those that served in the past. A strategic plan that adapts to market change, ensured differentiation, and avoided obsolescence is the key to continued growth and prosperity.

*Stage VII: Visionary.* In Stage seven, the theme is now vision, and the challenges arise around differentiation, profitability, loss of agility, and responding to changes in the market. In this final stage, an executive management team is making key decisions and implementing the strategic plan. The strategic plan is the tool that is causal to purposeful growth. In some cases, a formal or informal board may be created to assist the founder and executive team in strategic planning (Fischer, 2006).

**Unique Elements of the Startup Plan**

A startup business plan is primarily unique in that it occurs at time zero of the enterprise. At time zero,
only one decision has been made: the decision to create a new enterprise. Implied in this definition is the reality that, at time zero, there exists no internal environment to audit. Further, in this first stage, the planner is likely to have a limited understanding of the external environmental factors, making the identification of opportunities and threats through SWOT analysis less than rigorous. The frustration with using the SWOT audit at time zero is evident in the testimonials of the practitioner-authored works advising against traditional startup business plans (Blank, 2013; Blank et al., 2013; Brinckmann et al., 2010; Gerber, 2010; Gumpert, 2002; Guttmann, 2015). Solving this problem by using the resource-based audit, RAIN, at time zero can improve the creation, adaptation, and implementation of startup plans, and reduce the failure rates of future startups.

The Proposed Theory: RAIN
Risk Analysis for Initial Needs (RAIN), as illustrated in Figure 2, is a new paradigm for startup planning. RAIN is a startup business plan method differentiated by its focus on achieving sustainability and scalability quickly. It has four distinct phases that conducted sequentially and iteratively throughout the Incubation period of the startup life cycle. RAIN incorporates resource-based auditing (RBA) at time zero in support of the decision to launch with an executable launch strategy. It is differentiated from other planning models by its foundational resource-based audit (RBA, illustrated in Figure 3) and its numerous brief iterations that are meant to be responsive to the needs of a business in the Incubation phase of the business lifecycle. RBA is an auditing method that measures and matches the launch resources necessary with the resources available to identify deficiencies. During the Incubation phase, the founder directs all resources towards creating and validating the business model to ensure it will produce repeatable and scalable positive financial performance. A business model that generates repeatable financial performance guarantees the sustainability of the enterprise.

Business Model Design (BMD) is the first phase. The goal of this phase is to form or create an organization in a purposeful manner. During this phase of startup planning, the founder must deal with administrative decisions such as choosing a legal form, installing a basic accounting system, purchasing necessary insurances, and complying with state, local and federal licensing requirements. The founder must determine what physical space, if any, will be necessary for a successful launch. Through pro-forma budgets, the founder must ensure the initial business model will drive revenues that exceed total cost at attainable initial volume. To develop this initial business model and forecast cash and cost, a decision must be made as to what product(s) and/or service(s) will be offered. The founder must consider the value proposition (VP) of these offerings and how they will be differentiated to induce repeatable purchases. To establish the VP, the founder must identify the market

![Figure 2: Risk Analysis for Initial Needs](image-url)
segment and customer profile they wish to target at the time zero launch. Further, understanding the VP will allow the founder to establish a pricing strategy, critical to budgeting for sustainability and profitability, at a predicted volume level. Early models should seek to establish a low-risk breakeven point, allowing for learning and innovation to occur without the risk of running out of working capital. Working capital is often referred to as runway, which is actually a measure of time rather than a measure of

---

**Risk Analysis For Initial Needs**

Resource Based Audit

Factors of production are the ingredients that are used to build an initial businesses model.

Deficiencies between the need and the availability of each factor creates resource gaps.

Risk should be identified and classified into Buckets, sorted by the factor of production it originated from.

Avoidable risks are identified and removed during the Factors Risk Audit. Gaps are filled with the founders resources and that of his Allies.

Inescapable risks discovered in the audit are monitored and mitigated with the creation of a Startup Business Plan.

© 2017 Gilbert T. Gonzalez All rights reserved.

<table>
<thead>
<tr>
<th>Factor of Production</th>
<th>Risk Pool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>Land Risk</td>
</tr>
<tr>
<td>Labor</td>
<td>Labor Risk</td>
</tr>
<tr>
<td>Capital</td>
<td>Capital Risk</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>Entrepreneurial Risk</td>
</tr>
</tbody>
</table>

Figure 3: Resource Based Audit Process
distance. Specifically, it is the amount of time within which an organization must achieve positive cash flow while implementing and refining its business model. The design decisions in this phase directly drive the needed resources at time zero that must be identified, acquired, and organized into a functional business.

Environmental Assessment (EA) can begin once the initial business model design is complete. The environmental assessment identifies gaps or deficiencies between the resource needs identified in the BMD phase and the resources available to the Launch Strategy. In the EA phase, the RBA is conducted to identify the resource needs and compare them to the resources available to the founder and their allies. Allies are individuals willing and able to provide key resources to the startup without interest in profit or fee (Gonzalez, 2017a). All resources identified as needed must be sourced from the founder or their allies prior to a positive launch decision. Matching the resource needs with sources is causal to improving the probability of sustainability through the removal of avoidable risk and mitigation of inescapable risk.

The RBA Process
Time zero startup plans must audit, measure, and match the resources necessary with the resources available in order to identify deficiencies. Any gaps constitute risk to the sustainability of the new organization. RBA is used to identify, categorize, and remove avoidable risk and to mitigate unavoidable risk. Risk is categorized during the RBA as either avoidable or inescapable. Avoidable risks are prevented through proper resource provisioning and appropriate decision making guided by the Launch Strategy, a written plan born of the RBA output. Inescapable risks are monitored and mitigated by the founder to minimize their impact on the launch and avoid unanticipated challenges.

RAIN utilizes RBA at time zero to identify avoidable and unavoidable risks associated with deficient or incomplete resources. These risk pools, or gaps in necessary resources, are categorized into one of the four factors of production as theorized by Adam Smith in *The Wealth of Nations* (Smith, 1789).

Examples of avoidable risk include deficient capital, lack of physical space, or inadequate human talents and skills. These risks may be avoided by identifying and acquiring the missing resource. Where resource gaps are identified, a corresponding strategy to mitigate or remove the risk is put in place. Inescapable risks, such as economic downturns or litigation related to unforeseen events such as worker error, are not within the founder’s control and must be mitigated. Specific strategies to remove or mitigate risks are the building blocks for the Launch Strategy in the next phase. Table 2 gives examples of resource gaps, the associated risk types, and a corresponding time zero strategy to remove or mitigate the risk.

Having completed the RBA, the founder now conducts an external analysis in a written form. The external analysis builds on the work found in prior planning models. A review of the competition and a rigorous understanding of the competitive landscape are necessary. The societal opportunities and threats as well as task opportunities and threats should be

<table>
<thead>
<tr>
<th>Risk Pool</th>
<th>Resource Gap</th>
<th>Risk Type</th>
<th>Potential Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital</td>
<td>Working capital deficiency</td>
<td>Avoidable</td>
<td>Identify lower cost model or raise additional funds before launching.</td>
</tr>
<tr>
<td>Capital</td>
<td>Unexpected recession</td>
<td>Inescapable</td>
<td>Pivot to short-term revenue model that allows for economic sustainability during recovery.</td>
</tr>
<tr>
<td>Labor</td>
<td>Injured worker</td>
<td>Inescapable</td>
<td>Budget for and procure Workers Compensation Insurance.</td>
</tr>
<tr>
<td>Labor</td>
<td>Experienced accountant</td>
<td>Avoidable</td>
<td>Identify and budget for key hire or outsource.</td>
</tr>
<tr>
<td>Capital</td>
<td>Unanticipated legal liability, automobile accident</td>
<td>Inescapable</td>
<td>Budget for and procure commercial auto and general liability insurance; restores asset, provides legal defense and makes third party whole if the enterprise is liable.</td>
</tr>
<tr>
<td>Land</td>
<td>Need initial production space</td>
<td>Avoidable</td>
<td>Budget for and lease appropriate initial location for production.</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>Fail to reach sales goals</td>
<td>Inescapable</td>
<td>Budget for need to pivot to new revenue model based on early feedback from customers.</td>
</tr>
</tbody>
</table>
Risk Analysis for Initial Needs

documented and considered. Using the methods of Wheelen and Hunger (1998) for the external audit is appropriate and effective.

In the qualitative research conducted by González in 2017, allies were identified as being causal to sustainability among the 25 businesses and founders studied (Gonzalez, 2017a). Allies are individuals willing and able to provide key resources to the start-up without interest in profit or fee. Access to the resources provided by allies greatly assists the founder in managing gaps in capital, labor, land, and entrepreneurship. Examples include:

- A spouse who provides family income to augment the capital resource.
- A parent who gives time and talent to augment operations and administrative labor resource.
- A friend who gives the venture the first order and refers others in their community to augment sales labor resource.
- A mentor who advises the founder on strategy and day-to-day challenges to augment the entrepreneurial resource needs.
- A brother who offers an office and warehouse augmenting the land resource.

In the 2017 study, González found that entrepreneurs with robust allies in their eco-system were far more likely to be sustainable than founders with few or no allies. Identifying and leveraging the allies and their shared resources during the EA process is a key differentiator of RAIN from other planning models.

Once the founder has developed a BMD and conducted an EA, it is time to make a launch decision. Should the EA demonstrate too much risk to sustainability due to resource gaps for which there are no resolutions, the founder should pivot by returning to the BMD process and engineering an alternate BMD. In the alternative, should the founder see an acceptable level of risk, they may make the decision to launch, thus beginning the Incubation Period.

The Launch Strategy (LS) phase begins with creating a list of key activities that support the efficient use of the time zero resources in the creation of the functioning business model, as designed in the BMD phase. In the LS phase, the founder will:
- Create the legal entity
- Procure the key licenses and permits
- Purchase the accounting platform
- Establish a banking relationship
- Inject the initial working capital
- Begin selling activities needed to monetize the goods or services

The Measure & Evaluation (ME) phase follows the completion of the LS phase. During this phase, the founder is learning in real time with each new prospect, sale, and transaction. Measurement of the sales activities from prospecting through close and the key metrics that offer insight into performance against budget is crucial to ensuring that the business is moving in a timely fashion to a repeatable point of breakeven operations. During this phase, the founder may "pivot" by revising the BMD based on learning and discovery. Iterations of these pivots can and should occur until the founder is confident that they have achieved sustainable operations with a scalable business model. Once sustainability and scalability are accomplished, the founder moves the organization into the Accelerator period. Traditional strategic planning is now efficient and valuable; the startup plan is converted into a long-term strategic plan in support of the evolution and scaling of the business.

Applications

RAIN can be applied at the genesis of the enterprise or at Stage 1 in the business growth life cycle (Fischer, 2006), illustrated in Figure 4. This planning system assists the founder in creating an implementable and specific strategy that accounts for all time zero resource needs, including needs related to setbacks or disappointments not normally anticipated by optimistic entrepreneurs (Gumpert, 2002). The resource gap analysis is used in place of SWOT for the startup plan at time zero. The evaluation and control cycle at the end of the Incubation period of planning will then feed into a traditional SWOT audit once a business model that is sustainable and scalable has been established. This transition marks the beginning of the Acceleration period and Stage 3 of the business life cycle.

Business planning and business life cycles can be categorized into two distinct periods. The first period is the Incubation period and is made up of two distinct stages. These stages are the aforementioned Survival and Ramp up stages. During these stages, RAIN is the appropriate planning model. RAIN assists the planner in focusing on the strategies that ensure survival and prepares the business to scale. Innovation, creation, and learning are the dominant activities during the Incubation period. During Incubation, "survival" and "ramping up" revenue are the most important objectives, driving all strategy and determining how resources are invested. Developing a BMD to support repeatable sales and growth is the priority for the founder during the first two
Benefits of Using RAIN

The benefits of using RAIN are significant. With RAIN, the entrepreneur has the means to design a business model and fit it to the resources available at time zero. The RBA tool within RAIN ensures that no resource will be overlooked or underutilized. Further, it expands traditional planning by including the power of identifying and engaging “allies” to expand the resource pool without consuming capital. The RAIN Launch plan is written specifically to meet the needs of a Stage 1 launch, including many one-time activities such as initial capitalization, legal formation, and conformation of a sustainable entity. RAIN improves the value and usefulness of planning for the entrepreneur, which enhances the likelihood that the founder will utilize the launch strategy in a disciplined approach.

It is expected that the sustainability rate of new ventures will increase measurably with the use of RAIN. A thorough understanding of the time zero resource needs and availability will support launch decisions. The RAIN model will assist the founder in removing all avoidable risk and mitigating any inescapable risk. The expectation is better design of time zero business models as a result of complete and responsive launch strategies that remove distractions, and focus on achieving sustainability and preparing the enterprises for scalability. RAIN is a paradigm shift for organizations in the Incubation period of the business life cycle.

Example of RAIN

Trajan Rodriguez is a recent college graduate and aspiring entrepreneur. What follows is an example of how RAIN was applied to create a startup business plan for this young entrepreneur. Trajan, or Trey to his friends, has a passion for fishing. Early in life, he established an important ally, his former youth sports coach, who is a professional guide in the Tampa Bay area. Trey worked as a mate while in school and honed and developed the skills needed to establish his own practice as a licensed guide. Trey trained for and earned a captain’s license during his senior year of college. He then wanted to set a path for turning his passion for sport fishing into a sustainable business. The process began with Phase 1, business model design, as summarized in Table 3.

Environmental Analysis

The next phase of the RAIN process, Phase 2, provides an assessment of the environment and an audit of available resources. Key elements of this process involved identifying resources supplied by the founder and key allies, as summarized in Table 4.

 Ally Identification

A critical element of the RAIN process is identifying allies willing to share resources with the entrepreneur. In our example, the key allies that could be identified in advance were as follows.

 Parents: Agreed to assist with income needs by providing room and board and food during the startup phase. Further, would assist in identifying customers and prospects through existing relationships and postings on their own social media accounts.

 Corporate Sponsor: Owner of “Team MCS fishing” agreed to allow the use of key assets such as the Sheaffer 24’ bay boat with tower and 18’ Beaver Tail Skiff. Boats are housed at Tampa Bay Harborage on Hula Bay in South Tampa. Access to the Marina which has a bar/restaurant for clients and parking for small groups. Will also hire for high profile tournaments where professional guidance is desirable.

 Captain John: Former youth coach and mentor agreed to assist with advising and referrals for trips he cannot accept. Will also sub-contract to the startup when more than one boat is needed for a tournament or corporate outing.
Table 3: RAIN Phase 1: Business Model Design

<table>
<thead>
<tr>
<th>RAIN Phase 1: Business Model Design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product/Service:</strong> The business would provide a turnkey fishing experience on or near the water of Tampa Bay for clients interested in a fun, safe, and relaxing day catching species indigenous to the Tampa Bay estuary.</td>
</tr>
<tr>
<td><strong>Value Proposition:</strong> Using only the finest of equipment including, but not limited to: the boat, tackle, and amenities for a fair market price, the clients could expect a fishing adventure that would be a five-star, memorable experience that guaranteed a safe and fun adventure.</td>
</tr>
<tr>
<td><strong>Model Differentiation:</strong> To set himself apart from other guides, he would guide in a professional quality tower bay boat with all of the amenities necessary to ensure a safe, comfortable, and productive day. His clients would be provided only the best fishing equipment and it would be impeccably maintained. He would offer flexible start and stop times to meet the customer preferences. Lastly, he would use his skills to ensure the client would have a memorable experience catching more and larger fish than a normal day on their own. Lastly, he would project a clean and professional image in delivering his service on the water.</td>
</tr>
<tr>
<td><strong>Market/Customer Identification:</strong> He would market to friends and families to establish an initial customer set. Further, he would seek corporate sponsors seeking to entertain clients. Lastly, using social media, he hoped to identify tourists and new prospects looking for an occasional trip. He realized earning repeat business would be crucial to developing a sustainable practice.</td>
</tr>
<tr>
<td><strong>Margin and Pricing Analysis:</strong> He was aware of the market pricing from his days mating for other captains as well as from surveying the many other guides who readily advertise their rates and fees on their websites. He had decided to price at the market initially.</td>
</tr>
<tr>
<td><strong>Capitalization:</strong> Ideally, he would want a professional grade tower bay boat and a technical skiff in order to offer the options needed based on the season and client desires. Further, he would need a variety of reels, poles, nets, and terminal tackle to have a successful start. Lastly, a full-service luxury marina with a restaurant, fuel, on-site repair, and launch would be the proper home port for his startup. A truck and trailer would be ideal, but they could be rented or borrowed initially without impact to the customer experience.</td>
</tr>
<tr>
<td><strong>Legal Organization, Accounting, and Administration:</strong> He decided to go with a sub &quot;S&quot; corporation to take advantage of the benefits of limited liability and minimal federal taxes. He would also need an occupational license and his captain’s license to comply with local and state governmental regulations.</td>
</tr>
</tbody>
</table>

**Competitive Landscape**

With the improving economy, the market is healthy. Competition is made up of full-time businesses with one or more boats and employees—often well established and known for effectiveness. Further, many small and part-time operators operate part-time businesses, especially flex schedule employees such as firemen. Often their rates are lower, and they typically own recreational grade boats and operate from public boat ramps. Offshore captains have recently started working inshore due to excessive regulations by the state that limit the harvest of many desirable species, making offshore fishing less attractive to the customer.

**Other Environmental Factors**

A variety of other environmental factors also needed to be considered. These included the following:

**Societal Threats:**
- State regulators continue to restrict the harvest of non-commercial fishing, making it less attractive for the recreational angler.
- Current IRS law does not allow for the expense of fishing for clients, only as an employee benefit, making sport fishing more expensive than other corporate events.
- Fuel prices are volatile, and the cost of fuel can greatly impact profitability.

**Task Opportunities:**
- Millennials are focused on purchasing experiences over tangible goods.
- Numerous corporate sponsorships can be earned for guides regularly on the water and visible in local tournaments.
- Many competitors are in the baby boom generation and will be retiring.
- Organizations such as the CCA advocate for and support the sport fishing industry.
- Many charities organize tournaments for fundraising.
### Table 4: RAIN Phase 2: Environmental Assessment & Resource Based Audit

<table>
<thead>
<tr>
<th>Resource Category</th>
<th>Resource needed</th>
<th>Founder</th>
<th>Ally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td>Marina, Restaurant, client parking, on-site repair</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Office for keeping records and conducting administrative and accounting work</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Labor</td>
<td>Marketing, sales, social media management</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Accountant and administrative work</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Captain, guiding, equipment and vessel maintenance</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>First mate</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>Capital</td>
<td>New or like new fully equipped bay boat</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>New or like new technical Skiff</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Fishing equipment and terminal tackle</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Truck and Trailer</td>
<td>0.4</td>
<td>0.6</td>
</tr>
<tr>
<td></td>
<td>Website and social media hosting</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Accounting and administrative hardware, software, and supplies</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Twelve months' runway capital for payroll and fixed cost</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>Desire for autonomy</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Vision for the enterprise</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Passion to succeed</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>Drive to overcome obstacles</td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

**Task Threats:**
- Environmental special interest groups oppose the use of the fishery and waters because of negative impact on the environment.
- The market is very cyclical as tourism, private consumers and corporate entertainment are sensitive to economic conditions.

Upon completion of the audit and identification of sufficient resources to ensure a successful launch, the decision to launch the enterprise as of May 1, 2017 has been made. The Launch Strategy in Phase 3 as summarized in Table 5 shall be conducted.

**Discussion**
RAIN is used to develop a time zero strategy that is quantifiable, measurable, and actionable. RAIN is supported by two existing theories, Goal Setting Theory (GST) and Resource Based Theory (RBT). GST, as explained by Locke and Latham's book, refers to the positive impact on performance, driven by the setting of goals. Researcher Edwin Locke found that individuals who set specific and difficult goals performed better than those who set general and easy goals (Locke & Latham, 1990). RAIN requires the planner to set specific time-driven goals that are causal to sustainability achievement prior to
Risk Analysis for Initial Needs

Table 5: Rain Phase 3: Launch Strategy

<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Goal Date</th>
<th>Duration (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negotiate terms with ally for use and shared cost with respect to the two</td>
<td>May 1, 2017</td>
<td>1</td>
</tr>
<tr>
<td>boats and marina access.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporation and filing for sub-chapter &quot;s&quot; status.</td>
<td>May 1, 2017</td>
<td>5</td>
</tr>
<tr>
<td>Establish website and social media presence, and grand opening marketing</td>
<td>May 2, 2017</td>
<td>10</td>
</tr>
<tr>
<td>campaign of direct sales.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Set up QuickBooks and initial budgets to track reoccurring costs and revenue</td>
<td>May 2, 2017</td>
<td>5</td>
</tr>
<tr>
<td>to ensure a budgeted path to sustainability is likely.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek sponsors through direct sales to offset operating costs and establish</td>
<td>May 15, 2017</td>
<td>5</td>
</tr>
<tr>
<td>credibility as top tier guide service.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establish bank account and means to accept credit and debit cards.</td>
<td>May 15, 2017</td>
<td>1</td>
</tr>
<tr>
<td>Purchase occupational license and assign captains license to new entity.</td>
<td>May 15, 2017</td>
<td>1</td>
</tr>
<tr>
<td>Install signage at Marina with contact information and develop and distribute</td>
<td>May 16, 2017</td>
<td>10</td>
</tr>
<tr>
<td>a brochure which explains service, cost, and reservation instructions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insert initial working capital into banking account and procure gear and tackle</td>
<td>May 16, 2017</td>
<td>2</td>
</tr>
<tr>
<td>as needed.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search for additional allies to act as informal sales team and reference</td>
<td>May 21, 2017</td>
<td>10</td>
</tr>
<tr>
<td>sources, with emphasis on sales professionals whom entertain clients and staffs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>frequently.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Launching. Resource Based Theory asserts that firms lower their risk of failure through the creation of competitive advantage (Miles, 2012). RAIN focuses the planners on the identification of resource needs and the acquisition of those resources at time zero. These two theories are consistent with the focus and purpose of RAIN.

RAIN is unique as a planning tool, in that auditing is not the first activity. The first activity is conceptualizing the business design by designing a model that identifies specifically what your product or service will be, how it will be differentiated, and who will be the target market. With an initial business model in mind, the founder then conducts the environmental assessment. The resource based audit is conducted along with an analysis of competitors, potential allies, and societal and task opportunities or threats. It is likely that the resources needed will not be readily available on the first design iteration. In response to resource gaps, the founder can choose to either modify the design to better fit the resources available, or seek out an ally to resolve the resource deficiency. After this iterative process is complete, the hope is that there will be a well thought out business model and confirmation that the needed resources are available. The confirmation of a fully resourced business model results in a decision to launch.

Upon making the decision to launch, the third phase of RAIN must be completed. The launch strategy is a sequential list of actionable items, organized as a timeline, that is necessary to form the new organization and begin operations. Almost immediately, the founder is learning and adjusting in order to optimize the business model. This iterative process continues until the founder is convinced the model design is sustainable and scalable. Having achieved a sustainable and scalable model, the founder is now ready to enter the Accelerator period and introduce traditional business planning. In the stages associated with the Accelerator period of the business lifecycle, the emphasis turns from survival to scale and growth, indicative of a successful launch.

The RAIN paradigm differs greatly from traditional business planning. In traditional planning, auditing is the initial activity, and the goal is identifying strengths, weaknesses, opportunities, and threats with growth as the purpose.

RAIN is also differentiated from "Lean strategy" or "Lean Canvas" in that it does not overly rely on excess capital and ignore the fundamental elements of founding a business, such as legal creation, licensing, accounting system formation, and external environment assessment.

Lastly, RAIN recognizes the role and necessity of allies in the startup plan and formally seeks to identify them and leverage their available resources. Traditional strategic planning and Lean planning do not recognize or target allies in developing the initial business model.
RAIN’s greatest vulnerability is that it is an untested business innovation. No matter how carefully the model is designed and resourced, it must still pass the empirical test of the consumer. RAIN will not guarantee the founder graduation to the Acceleration phase; it can only signal to the founder when graduation is appropriate. RAIN is not a conceptual scheme like "Lean Strategy" that works in a narrow sector under heavily capitalized launches. RAIN is applicable to all industries, sectors, and ventures. Its broad design can be a burden to an inexperienced entrepreneur who does not fully understand business model design and may not see all the resource gaps or fully anticipate customer’s preferences.

Conclusions
The complete model, shown in Figure 5, demonstrates how the RAIN planning model transitions to traditional planning as the enterprise successfully advances through the life cycle stages of a business. Using the RAIN model, the founder can measure and plan the Land, Labor, Capital, and Entrepreneurial resources needed prior to launching the initial business model. The founder compares the resources needed to the resources under their control, identifying any gaps, which represent a potential risk. Further, the founder identifies and includes allies in order improve the time zero resources of the startup. The founder then develops specific strategies to fill the gaps and avoid or mitigate the avoidable or inescapable risks. These strategies become crucial elements to the time zero launch plan. During stage 1, the founder is focused on creating a strategy that ensures survival by validating that the business model will begin to generate positive cash flows well before the initial working capital is depleted (Fischer, 2006). The decision to launch is triggered once all avoidable risk is removed and all inescapable risk

![Diagram](https://via.placeholder.com/150)

**Figure 5: Business Planning Models & Life Cycle**

© 2017 Gilbert T. Gonzalez. All rights reserved.
is identified and mitigated with a specific strategy or contingency plan. Upon launching, the business cycles through rapid iterations of environmental assessment, looking for improvements that can be made to the business model. Only upon validation that the model will generate repeatable and scalable revenues does the founder transition into the acceleration period and employ traditional strategic planning to scale and grow.

References


Smith, A. (1789). *An inquiry into the nature and causes of the wealth of nations* (5th ed.). London [electronic resource]: By Adam Smith, LL.D. and F.R.S. of London and Edinburgh; one of the commissioners of His Majesty’s customs in Scotland; and formerly Professor of Moral Philosophy in the University of Glasgow. In three volumes. Printed for A. Strahan, and T. Cadell, in the Strand, M DCC LXXXIX. [1789].

Review
This article was accepted under the constructive peer review option. For further details, see the descriptions at:
http://mumabusinessreview.org/peer-review-options/

Author

Gilbert Gonzalez is founder and president of Mission Critical Solutions, Inc., a leading-edge technology solutions provider and a two-time finalist for the Greater Tampa Bay Chamber of Commerce Small Business of the Year. In 2005, Gonzalez was named the Small Business Person of the Year for Florida by the U.S. Small Business Administration. He is a frequent lecturer at business forums and, in addition to his service at MCS, Gonzalez has published software and case studies related to strategic management and business policy. He received an MBA from University of South Florida (USF) in Tampa, FL, doing so with honors and with concentrations in management of information systems and economics and is currently completing his DBA at USF.
September 21, 2017

To Whom It May Concern:

The purpose of this letter is to serve as confirmation of permission to include reprints of any article or case study published in the Muma Business Review or Muma Case Review open access journals. All publications in both journals are covered by a Creative Commons BY-NC license. Under this license, any published material may be reprinted—in whole or in part—provided that proper attribution is given.

Consistent with open access journal standard practice, the author retains the copyright for his or her work, as note on the cover page of articles in both journals. The only exception to this is when multiple authors makes assigning the copyright administratively complicated; in this case, the journal retains the copyright under the same license.

Yours Sincerely,

T. Grandon Gill, DBA
Editor-in-Chief, Muma Business Review
Professor, Information Systems & Decision Sciences Department
DBA Academic Director
CIS1040
Muma College of Business
University of South Florida
4202 E Fowler Ave.
Tampa, FL 33620
gandon@usf.edu
813-974-6755
**Gilbert Gonzalez** is founder and president of Mission Critical Solutions, Inc., a leading-edge technology solutions provider, and a two-time finalist for the Greater Tampa Bay Chamber of Commerce Small Business of the Year. In 2005, Gonzalez was named the Small Business Person of the Year for Florida by the U.S. Small Business Administration. He is a frequent lecturer at business forums and, in addition to his service at MCS; Gonzalez has published software and case studies related to strategic management and business policy. He received an MBA from University of South Florida (USF) in Tampa, FL, doing so with honors and with concentrations in management of information systems and economics and is currently completing his DBA at USF.