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Relationship Between Bootstrap Financing, Number of Employees, and Small Business Success

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This is to certify that the doctoral study by

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Abstract

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MBA, Plymouth State University, 2007

BS, Southern New Hampshire University, 2005

AS, Southern New Hampshire University, 2004

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

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Abstract

Small business entrepreneurs face high failure rates, yet the success of local, state, and national economies relies on the success of small business. With a lack of capital commonly cited as a reason for failure, entrepreneurs must find ways to predict business survival. Grounded in pecking order and enactment theory, the purpose of this correlational study was to examine the efficacy of bootstrap financing and numbers of employees in predicting business survival, measured by the business age. The research question was answered by using a predictive correlational quantitative research method with a cross-sectional survey design. The central question was whether the amount of bootstrapping financing, measured by a bootstrapping survey, and numbers of employees significantly predicts firm success, measured by firm age in years. Study participants (n = 111) were owners of small businesses in the state of New Hampshire who had been in business for a minimum of 5 years. The results of the multiple linear regression analysis indicated that bootstrap use and number of employees did not significantly predict business survival. Results indicate support for the pecking order theory of financing with minimal evidence of entrepreneurs enacting their environment. The majority of entrepreneurs surveyed used at least one method of bootstrap finance to support the business. Bootstrapping methods with the highest rate of use were offering the same conditions of all customers, negotiating the best payment terms with suppliers, and buying used equipment over new equipment. The implications for positive social change include the potential to provide New Hampshire small business entrepreneurs with information for making informed financial decisions and creating financial models.

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Dedication

I dedicate this doctoral study to my family. To Mike, thank you for providing your unwavering support, good humor, and moments of shared anger. Brenden and Morgan, remember to dream big, work hard, and go for your goals. Thank you for helping me survive this process. It has been a team effort, and I love you all.

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Section 1: Foundation of the Study

Small business entrepreneurs face multiple challenges, with the majority of these challenges related to lack of capital (Irwin & Scott, 2010; Osei-Assibey, Bokpin, & Twerefou, 2012; Yilmazer & Schrank, 2010). An entrepreneur must find a way to cover costs to negate the problem of attaining capital, such as procuring a loan or venture capital. However, loan institutions and venture capital financiers may deny loan applications. If an application is approved, financiers may issue funds in an amount insufficient to cover expenses if the business is new, and the entrepreneur may not have had the opportunity to prove the value of the business (Ebben & Johnson, 2006; Van Auken & Neeley, 1996). Many entrepreneurs must search elsewhere for funding options to make up for cash shortfalls (Ebben & Johnson, 2006; Smith, 2009; Van Auken & Neeley, 1996). Often, entrepreneurs use creative funding sources and strategies to meet business needs, bypassing the traditional sources of loans or venture capitalists (Ebben & Johnson, 2006; Van Auken & Neeley, 1996). The untraditional sources, known as *bootstrap financing*, are usually internal to the business and minimize the need for external capital.

Bootstrapping refers to a method of financing a small business without attaining outside capital (Ebben & Johnson, 2006). Bootstrapping allows small business owners to create new financial resources or stretch existing resources without using debt, a venture capitalist, or other external means to attain required capital (Neeley & Van Auken, 2009). Examples of bootstrapping include (a) using an entrepreneur's personal credit cards, (b) borrowing from family or friends, and (c) bartering for services or goods from other

entrepreneurs (Winborg & Landstrom, 2001). Researchers (Cassar, 2004; Ebben & Johnson, 2006) who have studied bootstrapping maintain that this phenomenon is an essential skill used predominantly by the entrepreneurs of business startups. The use of bootstrapping allows an entrepreneur to continue operations at a time when attaining outside capital is not realistic (Ebben & Johnson, 2006; Van Auken & Neeley, 1996).

Bootstrapping a small business is a common practice for startup owners but is not common for owners of established businesses (Bhaird, 2010; Cassar, 2004; Osei-Assibey et al., 2012). Minimal information exists in the literature regarding entrepreneurs who use bootstrapping beyond the startup phase of the business. Funding options tend to change as an owner works in his or her business through the business lifecycle (Bhaird, 2010; Cassar, 2004; Osei-Assibey et al., 2012; Servon, Visser, & Fairlie, 2010; Vasiliou, Eriotis, & Daskalakis, 2009). Entrepreneurs stray away from the incorporation of bootstrapping techniques as external financing options become available (Bhaird, 2010; Cassar, 2004; Osei-Assibey et al., 2012; Servon et al., 2010; Vasiliou et al., 2009). Little knowledge exists about entrepreneurs who continue to pursue bootstrapping techniques after the startup phase of the business as part of a formal financial plan (Cassar, 2004; Ebben & Johnson, 2006). A lack of bootstrap studies beyond the startup phase does not indicate an absence of the practice so much as provide evidence of a gap in the literature (Smith, 2009). Results of the current study may help in filling the gap in knowledge.

Background of the Problem

Almost half of all new small businesses fail, yet small business plays an essential role in the economy (Baptista & Preto, 2011; Neumark, Wall, & Zhang, 2011; Schiff,

Hammer, & Das, 2010; Servon et al., 2010; U.S. Small Business Administration [USSBA], 2010a). In the United States, 49% of new startup companies survive to the fifth anniversary of their birth (USSBA, 2010a), with only 34% surviving until their 10th anniversary (Schiff et al., 2010). Throughout the literature, researchers have cited inadequate funding as one of the top reasons that a small business fails (Korunka, Kessler, Frank, & Lueger, 2010; Osei-Assibey et al., 2012; Schiff et al., 2010). Small business failure has a substantial negative effect on employment and the economy, as small businesses represent 99.7% of the nation's employer firms (USSBA, 2010a) and are the primary source of new jobs (Baptista & Preto, 2011; Neumark et al., 2011). Small business owners provide numerous opportunities for employment; thus, knowledge of positioning for survival using financial options becomes necessary for entrepreneurial and economic success.

Entrepreneurs attain business capital using various funding options that are internal or external to the small business (Coleman & Robb, 2012). Although more than 90% of new small business entrepreneurs use internal financing means, or bootstrap finance, researchers have focused predominantly on external business financing (Afolabi, Odebunmi, & Ayo-Oyebiyi, 2014; Lam, 2010; Smith, 2009). Few scholars (Salimath & Jones, 2011; Smith, 2009; Vanacker, Manigart, Meuleman, & Sels, 2011) have examined the methods, procedures, outcomes, and types of internal funding available to a small business entrepreneur, or whether the use of bootstrapping as a stable funding source can aid in long-term business survival. Entrepreneurs need information about bootstrap finance and its relation to business survival, as measured by business age (Afolabi et al.,

2014; Cassar, 2004; Smith, 2009; Van Auken & Neeley, 1996).

Entrepreneurs can apply information on the effects of using internal financing when creating business plans and financing strategies. Understanding the relationship between bootstrap finance, number of employees, and business success, as measured by business age, may provide entrepreneurs with additional financial options for business operations. Entrepreneurs' knowledge of internal financing methods may lead them to choose different financing methods and increase their chances of success while lowering small business failure rates. Sustainable financial practices may aid entrepreneurs in moving forward with innovations, driving the economy, and providing employment through their small businesses.

Problem Statement

Small business operations are essential to the United States' economy, although nearly half of new small businesses fail (Besser, 2012; Neumark et al., 2011; USSBA, 2010a). Lack of traditional financing is a major factor contributing to business failure, requiring entrepreneurs to implement alternative financing methods (Ebben & Johnson, 2011; Irwin & Scott, 2010; Korunka et al., 2010; Schiff et al., 2010). The general business problem is that the U.S. small business sector makes up 99.9% of domestic businesses (USSBA, 2010a), employs 99.7% of the American workforce (USSBA, 2010a), and yet has a 6-year failure rate of 60% (Yang, 2012). The specific business problem is entrepreneurs' lack of knowledge about the relationship between business success measured by business age, number of employees, and bootstrap financing.

Purpose Statement

The purpose of the correlational quantitative study was to examine the efficacy of bootstrap financing and numbers of employees in predicting company success as measured by business age. The independent variables were the bootstrap financing reported score (Van Auken, 2005) and the number of company employees. The dependent variable was the age of the firm. The targeted population consisted of small business owners in New Hampshire who had been in business for a minimum of 5 years.

Additional data from this study provide knowledge of potential financial resources to entrepreneurs. For an entrepreneur, knowing alternatives to debt or equity financing could help to better position small businesses, possibly increasing chances of business success and long-term survival. Increased business survival rates may allow small business entrepreneurs to contribute to fueling the economy, providing employment, and driving innovation.

Nature of the Study

To conduct this study, I employed a quantitative methodology. The quantitative approach was appropriate for this study because it was consistent with previous bootstrap research and produced numerical data for analysis of trends and patterns (Smith, 2009; Sousa, Driessnack, & Mendes, 2007). Consistency of design methods with past studies allowed for comparison and application of the data to other studies within the business field. Numerical data provided for evaluation of relationships within the data (Sousa et al., 2007). I considered qualitative and mixed methods designs and deemed the methods inappropriate due to the time required to carry out the study (Doyle, Brady, & Byrne,

2009).

I chose a correlational design for this study, which was appropriate because it allowed for inferences about entrepreneurs and the use of bootstrap finance (Williams, 2007). I collected a cross-sectional sample that produced data reflecting a single point in time, which was consistent with previous studies on bootstrap finance (Rindfleisch, Malter, Ganesan, & Moorman, 2008; Sousa et al., 2007; Williams, 2007). Consistency of the collected data with data of past studies allowed for comparison with other studies. Other methods such as experimental and factorial received consideration, but due to inconsistent use by other researchers in the field, the methods were inappropriate.

Research Question

Does the amount of bootstrapping financing, measured by a bootstrapping survey, and number of employees significantly predict firm success, measured by firm age in years?

Hypothesis

H_o: The amount of bootstrapping financing, measured by a bootstrapping survey, and number of employees will not predict firm age, measured in years.

H_1: The amount of bootstrapping financing, measured by a bootstrapping survey, and number of employees will predict firm age, measured in years.

Survey Questions

I adapted survey questions from surveys used and validated previously by Howard Van Auken, entitled Acquisition of Capital (see Appendix A) and the University of Michigan Survey Research Center, Entrepreneurial Study—Wave F Questionnaire (see

Appendix B). Each question reflected the objectives of the research question and hypotheses. The current study used the following survey questions (see Appendix C).

Business Demographics

1. In what year was your firm first organized as a legal entity?

   YEAR (4 digits):_____ DON'T KNOW_____

2. How many people does your firm currently employ?

   _____ Full Time _____ Part Time

3. Which of the following now best describes this business? Would you say it is a retail store, a restaurant tavern, bar, or nightclub, manufacturing, construction, agriculture, mining, wholesale distribution, transportation, utilities, communications, finance, insurance, real estate, some type of business consulting or service, or something else? (What is the primary type of this business?)

_____ Retail store

_____ Restaurant, tavern, bar, or nightclub

_____ Customer or consumer service

_____ Health, education, or social services

_____ Manufacturing

_____ Construction

_____ Agriculture

_____ Mining

_____ Wholesale distribution

_____ Transportation

_____ Utilities

_____ Communications

_____ Finance

_____ Insurance

_____ Real estate

_____ Business consulting or service

_____ Something else

4. How is your business currently organized? (please check one)

_____ Sole proprietorship _____ Corporation

_____ Partnership _____ Limited liability corporation

_____S–corporation _____Limited liability partnership

5. What is the current market for the products or services sold by your firm? (please check one)

_____ Local _____ National

_____ Regional _____ International

Employment of Financing Techniques

Please rank each of the following sources of capital relative to how often you have employed these methods to help finance your business. (Ranking scale is as follows: 0 = *I never employ this funding method* to 5 = *I always employ this funding method*)

6 Buy Used Equipment Instead of New Equipment
7 Negotiate Best Payment Terms with Suppliers
8 Withhold Salary When Necessary
9 Deliberately Delay Payment to Suppliers

10 Speed up Invoicing

11 Borrow equipment
12 Use Interest on Over Due Customer Accounts
13 Hire Temporary Rather Than Permanent Personnel
14 Use Routines to Minimize Capital Invested
15 Coordinate Purchases with Other Businesses

16 Lease Equipment Instead of Buying
17 Obtain Payment in Advance from Customers
18 Cease Business with Customers Who Pay Late
19 Use Personal Credit Card for Business Expenses
20 Offer the Same Conditions of all Customers

21 Rely on Income from Outside Employment
22 Obtain Loans from Relative or Friends
23 Practice Barter Instead of Buying/Selling Goods
24 Offer Customers Discount for Cash Payment
25 Buy on Consignment from Suppliers

26 Deliberately Choose Customers Who Pay Quickly
27 Share Office Space with Others
28 Employ Relatives/Friends
29 Deliberately Delay Tax Payments
30 Run the Business Completely in the Home

31 Share Equipment with Other Businesses
32 Share Employees with Other Businesses
33 Raise Capital from a Factoring Company

Theoretical Framework

The capital structure theory of the pecking order of financing, coupled with the theory of enactment, set the theoretical basis for the current study. By making a conscious effort to use bootstrapping techniques, an entrepreneur can search for these opportunities within his or her environment. Entrepreneurs can benefit from these found opportunities

by employing them in a manner that benefits the business.

Pecking Order Theory

Researchers (Atherton, 2012; Donaldson, 1961; Myers, 1984) have developed the *pecking order theory* of small business finance to explain the hierarchy of funding methods used by entrepreneurs. Donaldson (1961) first theorized of the existence of a pecking order. Myers (1984) further developed the theory of pecking order by confirming its existence. The pecking order indicates that entrepreneurs use internal financing methods prior to external methods of debt or equity financing (Degryse, de Goeij, & Kappert, 2012; Donaldson, 1961; Myers, 1984; Minola & Cassia, 2013; Paul, Whittam, & Wyper, 2007; Zha & Zhang, 2010). Due to issues such as information asymmetries, financier demands, costs associated with attaining debt or equity, and loss of control, entrepreneurs tend to follow the pecking order (Minola & Cassia, 2013; Paul et al., 2007).

Cassar (2004) added to the pecking order for capital structure theory, stating that the characteristics of the business may lead potential financiers to have differing demands for company performance. Unavailable information regarding the company, or information asymmetries, causes difficulties in measuring differing demands of financiers (Colombo, Croce, & Guerini, 2013). Information asymmetries play a role in the ability to attain financing, as well as the cost of attaining debt (Colombo et al., 2013; Degryse et al., 2012; Guariglia, Lui, & Song, 2011; Vasiliou et al., 2009). Information asymmetries occur when one party has more information than the other does, or the information is more obvious to one party over the other (Irwin & Scott, 2010; Van Auken & Neeley, 1996; Vasiliou et al., 2009).

In reaction to financier demands, information asymmetries, and debt and equity costs, entrepreneurs will seek to use internal financing methods prior to finding external sources (Cassar, 2004; Cui, Zha, & Zhang, 2010; Padachi, Howorth, & Narasimhan, 2012). Because most small businesses are unable to attain capital from external financing sources (Osei-Assibey et al., 2012; Winborg & Landstrom, 2001), entrepreneurs are required to use bootstrapping methods out of necessity (Osei-Assibey et al., 2012; Winborg & Landstrom, 2001). The current study of the correlation between bootstrap finance, firm size in terms of the number of employees, and business success measured by business age followed a broad view of the pecking order, in that internal funding methods preceded external financing alternatives (Leary & Roberts, 2010). The pecking order theory can work congruently with the theory of enactment.

Enactment Theory

Daft and Weick (1984) explained that the theory of enactment is applicable when entrepreneurs take an active stance toward their environment, finding and acting upon opportunities rather than depending on the emergence of opportunities. Based on the entrepreneur's perception of the environment, the entrepreneur can identify these areas of opportunity (Daft & Weick, 1984; Walls & Hoffman, 2012). Entrepreneurs can use their surrounding environment to their advantage to create opportunities to benefit the business (Lam, 2010; Wiklund, Patzeit, & Shepherd, 2009).

Lam (2010) further applied the theory of enactment to business finance and stated that entrepreneurs scan their environment and use the information to create financial opportunities. Research by Grichnik, Brinckmann, Singh, and Manigart (2014) supports

application of the enactment theory. These opportunities could include bootstrapping techniques such as partnerships with other entrepreneurs and networks for borrowing or purchasing supplies, bartering, or sharing resources (Neeley & Van Auken, 2009; Smith, 2009; Winborg & Landstrom, 2001). Constant searching and integration of bootstrapping techniques allow entrepreneurs to shape the financial environment (Lam, 2010). Entrepreneurs could make a conscious decision to search their environment for bootstrapping opportunities, following enactment theory principles (Grichnik et al., 2014). With an entrepreneur scanning the environment through networking and monitoring, bootstrap methods may change, but the benefits could remain.

Synthesis of Pecking Order and Enactment Theories

The pecking order and enactment theories relate to small business financing by describing the creative techniques that entrepreneurs use. Through a review of business demographics, the link between business characteristics and implementation of creative finance can be determined. Because of the very nature of a small business, the assumption is required that the availability of external funding is minimal (Winborg, 2009). Winborg (2009) stated that at some point during the life of the business, the majority of entrepreneurs must employ some form of bootstrap finance. In accordance with the researched financial theories, the assumption is that businesses use some form of creative financing at some point during the life of the business (Winborg, 2009).

The concepts of the pecking order and enactment theories can apply to entrepreneurial use of bootstrap finance techniques. Entrepreneurs can design a finance model that incorporates both the pecking order and enactment methods by using internal

financing. The entrepreneur may scan the environment for new opportunities to fund his or her business. As debt and equity finance becomes available, the entrepreneur could make a conscious effort not to use these external means.

Definition of Terms

Definitions outlined below are in respect to concepts outlined within the quantitative study of bootstrap financing as used in the context of the current study.

Angel investors: Informal investors who use personal funds to invest in business ventures (Collewaert, 2012).

Bootstrapping or bootstrap finance: A creative method of attaining capital that does not follow conventional methods of external financing (Van Auken & Neeley, 1996).

Capital structure: The mix of debt to equity used to finance business operations (Fatoki, 2013).

Enactment theory: Theory that suggests that entrepreneurs can actively use their environment to create their opportunities rather than waiting for the environment to present them with an opportunity (Daft & Weick, 1984).

Hui: Informal investment groups found in Hong Kong that lend funds to business owners (Lam, 2010).

Long-term survival: Applies to a business beyond the adolescence phases, or more than 4 years old, typically within the post adolescence phase of 8 years (Korunka et al., 2010). For the current study, *long-term survival* applies to a business that has survived for 5 years or more.

Pecking order theory: Theory of a financial hierarchy for businesses that indicates that entrepreneurs use internal financing methods prior to external methods of debt or equity (Donaldson, 1961; Myers, 1984).

Perfect market: An ideal situation in which all businesses, regardless of size or category, would have the same access to and conditions for receiving financing, that information would be accurate and consistent, and that bankruptcy or transaction costs would not exist (Afolabi et al., 2014; Rahaman, 2011; Van Caneghem & Van Campenhout, 2012).

Small business: As defined by the industry criteria outlined by the North American Industry Classification System and explained by the USSBA (2010c, 2010d), definitions of *small business* differ by industry. Many exceptions exist based on the North American Industry Classification system, but general criteria classify a small business as having fewer than 500 employees for manufacturing and mining industries, or less than $7 million in receipts for nonmanufacturing industries (USSBA, 2010d).

Social network: A community of relationships used to leverage social capital (Sengupta, 2011).

Success: Applies to a profitable business that has survived beyond the startup phase (Chittithaworn, Islam, Keawchana, & Yusuf, 2011; Gorgievski, Ascalon, & Stepha, 2011).

Assumptions, Limitations, and Delimitations

A study of the correlation between business success measured by business age, number of employees, and use of bootstrap financing techniques involved assumptions

and faced limitations because of the study scope. Multiple delimitations existed because of participant demographics. The assumptions, delimitations, and limitations of the study received consideration.

Assumptions

For the current study, I made several assumptions. First, I assumed that NH small business owners use bootstrapping techniques as a method of creating stable business financing. Second, I assumed that business entrepreneurs could not attain financing from traditional funding methods (Cassar, 2004). Following the assumption that traditional funding is difficult to attain, I assumed that small business entrepreneurs needed to secure capital through other funding sources (Osei-Assibey et al., 2012; Winborg & Landstrom, 2001).

Limitations

The limited size and location of the participant pool resulted in a limitation for the study. Due to the sample consisting of only NH entrepreneurs, the results may not transfer to areas outside of the region. The lack of transferability of the data to other regions may be due to differing demographics, business practices, and regional environmental factors (Atherton, 2012).

Limitations due to the design of the survey tool affected the study. Windborg and Landstrom (2001) stated that the use of a Likert-type scale might have analytical limitations. The Likert-type scale used a rating scale of 0 through 5, with 0 meaning that entrepreneurs did not use the method and 5 meaning that entrepreneurs always use the method. When using the scale, respondents may have overestimated the use of

bootstrapping methods listed within the survey (Winborg & Landstrom, 2001). Overestimation by participants may have skewed the collected results.

Delimitations

Specific restrictions limited the scope of the quantitative research. Researchers (Cassar, 2004; Van Auken, 2005; Van Auken & Neeley, 1996) know that small businesses within the startup phase use bootstrapping techniques; however, research lacks information on businesses beyond the startup phase. For this reason, the sample population focused on small business owners with businesses beyond the startup phase of the business lifecycle. The study was bound to the geographic region of NH. For the purpose of the current study, a small business met classification criteria for a small business according to the North American Industry Classification System (USSBA, 2010c, 2010d).

The current study includes a review of traditional funding models for small businesses, specific aspects of bootstrap financing, the effects of bootstrapping on a business, and the perception of the method's importance to entrepreneurs. The research involved review of the literature and data gathering through an online survey. Online surveys were completed and submitted at a time determined best for the participants in accordance with the period associated with the study. The scope of the study did not include research on why entrepreneurs choose to use one technique over another, or what the motivation of entrepreneurs is to use bootstrapping techniques continuously.

Significance of the Study

Studying the correlation between the use of bootstrap finance as a stable funding

source, the number of people employed by a business, and business success measured by business age addresses several issues. The study addressed the specific business problem of entrepreneurs not having knowledge about the relationship between long-term business success, number of employees, and bootstrap finance. Findings added to the literature, expanding the financial knowledge base of researchers and entrepreneurs. Expanded data on internal financing can help NH business owners in financial decisions. Findings and results may contribute to social change. The introduction of new information to the small business community regarding bootstrap finance may aid in entrepreneurial success and survival (Chittithaworn et al., 2011). Successful entrepreneurs may benefit society by improving the economy, providing employment, training the workforce, and fostering innovation (Ahlstrom, 2010; Baptista & Preto, 2011; Clark & Saade, 2010; Gorgievsk et al., 2011; Neumark et al., 2011; Radojevich-Kelly, 2011).

Contribution to Business Practice

Further study of bootstrap finance adds information to the literature on the topic, expands current knowledge, and builds upon the work of scholars who have studied bootstrapping techniques. I addressed the specific business problem of entrepreneurs not having information regarding the correlation between long-term business success, number of employees, and bootstrap financing. My analysis of the study results provides entrepreneurs with additional information for determining funding techniques and strategies when starting and continuing their business operations. Additional information can aid entrepreneurs and contribute to the success and survival of their business (Chittithaworn et al., 2011). Increased business survival contributes to social change by

improving the economy, providing jobs and training to the workforce, and bringing innovation and new technology to society (Baptista & Preto, 2011; Clark & Saade, 2010; Islam et al., 2011; Neumark et al., 2011; Yilmazer & Schrank, 2010).

Existing information regarding financing of small businesses focuses on external sources of raising capital. Minimal information exists on the effects of using internal funding sources beyond the startup phase, or whether a correlation exists between internal funding sources, number of employees, and business success measured by business age. Studies about bootstrapping techniques come predominantly from the same pool of researchers, individually and with their colleagues, such as Cassar, Ebben, and Van Auken, who suggested a knowledge gap in the literature. Researchers have confirmed the knowledge gap (Salimath & Jones, 2011; Smith, 2009), and the gap is evident in the minimal information pertaining to the subject in financial textbooks and literature (Afolabi et al., 2014; Vanacker et al., 2011) and the limited materials found for the current study. Although bootstrapping is implied, formal mention of bootstrapping techniques is often missing from the literature pertaining to entrepreneurial finance (Lam, 2010). Identified advantages to using bootstrapping methods are in the literature; however, researchers have not focused on the relationship between ongoing use and business outcomes (Jones & Jayawarna, 2010).

Researcher studies regarding bootstrapping focus on specific countries, focus on the Midwestern United States, or are all-encompassing and broad (Cassar, 2004). I focused the study on NH with potential implications for the New England region. Focusing on the New England region expanded the demographics of previous studies and

added general knowledge to existing research.

Implications for Social Change

Small businesses play a vital role in society and within the economy (Islam et al., 2011; Padachi et al., 2012). Members of the New Hampshire Senate recognize the importance of small business, stating that small businesses provide resident jobs and are integral to economic survival (S. 125-FN-A, 2011). This role includes technological advances, workforce training, and employing members of society (Baptista & Preto, 2011; Clark & Saade, 2010; Islam et al., 2011; Neumark et al., 2011; Yilmazer & Schrank, 2010). In the United States, small business entrepreneurs provide a large portion of employment. Small businesses account for 99.7% of non government jobs (Baptista & Preto, 2011; Neumark et al., 2011; USSBA, 2010a). Within the past 15 years, small business entrepreneurs have provided 64% of the newly created jobs (Baptista & Preto, 2011; Neumark et al., 2011; USSBA, 2010a). Job creation and growth help to strengthen the economy (Padachi et al., 2012).

The small business environment serves as a training ground for new and current employees, increasing the skillset of the workforce (Clark & Saade, 2010). An increased skill set can lead to innovation and new ideas that can benefit society, with successful entrepreneurs of small businesses leading the way (Yilmazer & Schrank, 2010). New ideas and innovation increase the quality of life within a society (Ahlstrom, 2010). For the benefits of small business to be effective, the business must first be successful and survive beyond the startup phase during both strong economic conditions and recessions.

Knowledge associated with bootstrap finance can play a vital role in protecting

small businesses (Korunka et al., 2010). During a time of recession, implementation of bootstrap methods can help an existing business to survive. Knowing methods for reducing and controlling expenses can aid an organization in building a culture of leanness and efficiency (Jones & Jayawarna, 2010). A lean business culture can better position a small business to contend with poor economic conditions. Additional information about bootstrapping can benefit small business entrepreneurs by providing bootstrapping solutions for survival.

Information distributed from the current study to the small business community may contribute to methods that can aid with business survival. Small business has a positive effect on society. To maintain that positive effect, small business entrepreneurs must be successful. Acquiring the tools necessary for entrepreneurs to be successful becomes essential to business survival. Results of the current study may directly benefit entrepreneurs' business practices while supporting social change in a positive manner through employment, training, and new knowledge.

A Review of the Professional and Academic Literature

The information contained in the literature review provides an overview of small business finance theories. The use of bootstrap finance techniques and both the benefits and drawbacks to incorporating bootstrapping into the financial model received review. These topics along with funding strategies for various stages of the business lifecycle are the background for the study.

Theories of Small Business Financing

Researchers (Neeley & Van Auken, 2010; Rahaman, 2011; Van Auken & Neeley,

1996) have explained through traditional finance theory that all entrepreneurs, regardless of business size, have equal access to debt and equity markets. Business maintaining a perfect market is the flaw of the theory (Rahaman, 2011; Van Caneghem & Van Campenhout, 2012). In a perfect market, business entrepreneurs would have the same access to and conditions for receiving debt or equity financing (Afolabi et al., 2014; Colombo et al., 2013; Rahaman, 2011; Van Caneghem & Van Campenhout, 2012). Information would be accurate and consistent for all institutions, and no bankruptcy or transaction costs would exist (Afolabi et al., 2014; Colombo et al., 2013; Rahaman, 2011; Van Caneghem & Van Campenhout, 2012). In actuality, the business market is imperfect concerning small businesses and funding needs (Rahaman, 2011). A key aspect of capital structure theory is that a financing mix should minimize costs by using optimal levels of debt and equity (Van Caneghem & Van Campenhout, 2012). The theory includes a simplified process for small businesses, does not adequately describe the opportunities for small businesses, and does not account for the limited choices available to small businesses (Neeley & Van Auken, 2010). To account for the imperfections that result, researchers have proposed theories to explain the funding strategies available to small business entrepreneurs. Financing theories include pecking order, enactment, static trade-off, resource dependency, and resource constraint.

Pecking order theory. Donaldson introduced the pecking order theory in 1961. The purpose was to explain the financial funding preferences of business owners (Myers, 1984). Donaldson concluded that business owners prefer to use internal funding techniques more than external techniques whenever possible (Donaldson, 1961). Myers

(1984) and Myers and Majluf (1984) expanded studies on the pecking order theory in terms of shareholder relations and valuation. Myers (1984) and Myers and Majluf (1984) reviewed financing opportunities through debt options and the issuance of equity through stock options. Information available to investors may result in market overvaluation or undervaluation of a firm (Myers, 1984; Myers & Majluf, 1984). The type of assets held by the firm, either tangible or intangible, are the basis for financing options.

The pecking order theory outlines the funding preferences of small business owners (Atherton, 2012; Padachi et al., 2012; Vasiliou et al., 2009). Researchers concluded that business owners prefer to use internal funding techniques more than external techniques whenever possible (Atherton, 2012; Padachi et al., 2012; Vasiliou et al., 2009). Further outlining external preferences, entrepreneurs prefer to use debt finance prior to equity finance (Paul et al., 2007).

With knowledge of the firm, a value can be placed upon the firm (Haron, Ibrahim, Nor, & Ibrahim, 2013). A *book value*, or an evaluation of what the business is worth, is attainable (Cole, 2013; Haron et al., 2013). The owner can also establish the *market value*, or the amount a buyer would be willing to pay, for the firm (Haron et al., 2013). From the information pertaining to the market and book values of the firm, an internal and external financing review helps owners to determine the best method for raising capital (Haron et al., 2013).

Research indicated that the pecking order theory exists as a financing model of small businesses. The model is apparent through the inverse relationship between leverage and profitability (Di & Hanke, 2012; Irwin & Scott, 2010; Lim, 2012; Newman,

Gunessee, & Hilton, 2012; Vasiliou et al., 2009). The theory applies to entrepreneurs who seek to use internal financing methods prior to external methods (Degryse et al., 2012; Osei-Assibey et al., 2012; Paul et al., 2007; Vasiliou et al., 2009). Further review of the theory indicated that when entrepreneurs use external funding methods, debt financing is preferred to equity financing (Paul et al., 2007; Vasiliou et al., 2009). Use of internal financing prior to external options follows the theory of pecking order.

Debates about the topic arise in the form of external financing and the hierarchy of external funding methods (Leary & Roberts, 2010; Minola & Cassia, 2013; Vasiliou et al., 2009). Vasiliou et al. (2009) found that different hierarchies of external financing might result from different study methodologies. The differing hierarchies raise questions about the validity of pecking order theory (Vasiliou et al., 2009). Almeida and Campello (2010) argued that the pecking order theory does not account for when "investment choice might become endogenous to external financing decisions precisely when external financing costs are high" (p. 591). Entrepreneurs may choose alternative financing methods if the costs of external financing are inhibitive.

Plausibility. Researchers explored the plausibility of the pecking order theory of small business financing (Paul et al., 2007; Vasiliou et al., 2009). Paul et al. (2007) explained that small business owners prefer to use internal financing techniques prior to seeking outside sources. The hierarchy for external financing considers debt financing prior to considering equity financing techniques, consistent with the pecking order theory (Paul et al., 2007). Paul et al. (2007) identified two factors that would fit with the pecking order hypothesis, adding to the credibility of the theory. New business entrepreneurs face

the issue of information asymmetry (Paul et al., 2007; Serrasqueiro & Nunes, 2012; Vasiliou et al., 2009). Beliefs about the value of items and the business remain unproven and may be difficult to list to fulfill lending requirements (Djupdal & Westhead, 2013; Paul et al., 2007). Business entrepreneurs rely on internal financing means because of an inability to attain outside financing (Atherton, 2012).

The second factor focuses on the entrepreneur's motivation to maintain control of the business (Paul et al., 2007). Small business ownership holds the attraction of being one's own boss, and some financing techniques may result in a loss of control to a third party (Paul et al., 2007). The motivation causes entrepreneurs to find financing options that allow the entrepreneur to maintain control of the business (Paul et al., 2007).

Contrary to past studies, Paul et al. (2007) found that equity funding was used prior to debt funding. Participants in the study thought that angel investors could provide more value to the business in terms of expertise, experience, and contacts, which would benefit the business. Researchers supported the findings of Paul et al. Critics of the pecking order theory supported the findings of Paul et al. Researchers do not agree that debt is preferred over equity when firms seek external funding, questioning the validity of the theory (Minola & Cassia, 2013; Vasiliou et al., 2009).

Static tradeoff theory. Firms must reach an optimal capital structure for the value of the firm to be maximized (Singh & Kumar, 2012). Within firm maximization, business entrepreneurs strive to balance benefits with the costs of debt and equity, striving for a set debt-to-asset ratio (Bhaird, 2010; Cassar, 2004; Singh & Kumar, 2012). A firm can attain maximum value with a proper debt-to-asset ratio (Singh & Kumar,

2012).

Several potential actions can help a firm to reach value maximization. Modigliani and Miller concluded that the tax deductibility of interest payments would lead entrepreneurs to use debt financing when available (Osei-Assibey et al., 2012). The theory also considers the potential for bankruptcy costs, as well as other agency costs that a business could face (Cassar, 2004; Miettinen & Virtanen, 2013). Considering these situations when determining funding can maximize the value.

Tradeoff theory predicts that older firms should have more leverage than younger firms (Cole, 2013; Forte, Barros, & Nakamura, 2013). However, studies by both Cole (2013) and Forte et al. (2013) found contradicting results. A negative relationship between firm age and leverage was found to exist (Cole, 2013; Forte et al., 2013).

Theory of enactment. The basis of the theory of enactment is a notion of self-formulation in which individuals take an active approach to their environment, finding opportunities and acting upon them (Case & Thatchenkery, 2010; Daft & Weick, 1984; Walls & Hoffman, 2012; Zhao, Frese, & Giardini, 2010). According to Walls and Hoffman (2012), a key member of an organization can take either an active or a passive approach. An active approach involves manipulation of the environment to benefit the organization, whereas a passive approach involves accepting the environment at face value (Case & Thatchenkery, 2010).

Entrepreneurs following enactment theory take the current environment and transpose it into an environment more suitable for the firm's needs (Case & Thatchenkery, 2010; Vaghely & Julien, 2010). Enacting organizations and owners are

testers, trying new actions and behaviors to determine what may work (Case & Thatchenkery, 2010; Vaghely & Julien, 2010). Past actions teach entrepreneurs about the environment and what methods work, providing information regarding the conditions of the environment and influencing new decisions (Case & Thatchenkery, 2010). Implementation of the enacting model benefits an entrepreneur by creating a thriving environment for the business.

Following the theory of enactment, Lam (2010) described bootstrapping as a continual process. Lam stated, "Entrepreneurial finance is not a tangible object that exists out there in the environment. Instead, it is a set of signals or situations that are interpreted as resources or opportunities by individuals; actions are followed to realize these" (p. 275). Lam's description coincided with the discovery and creation theories explained by Alvarez and Barney (2013). Discovery theory relates to existing markets or industries that have something happen (Alvarez & Barney, 2013). An entrepreneur sees what happens as an exploitable opportunity (Alvarez & Barney, 2013). Creation theory was a result of an entrepreneur creating an opportunity through a process of enactment (Alvarez & Barney, 2013). Enacting entrepreneurs made their opportunities rather than waiting for the environment to present an opportunity to them (Alvarez & Barney, 2013).

The theory of enactment is dependent upon the perception of the entrepreneur. Entrepreneurs must search for a method to use the environment to their advantage, rather than accepting the environment as presented (Wiklund et al., 2009). Instead of accepting the use of bootstrapping when debt or equity is not attainable and moving toward a debt-equity model in future business years, entrepreneurs could use the theory of enactment to

continue with a bootstrapping model. With an entrepreneur scanning the environment through networking and monitoring, bootstrap methods may change, but the benefits could remain. Changing perceptions enable an entrepreneur to use methods that will have the most benefit to the business (Wiklund et al., 2009).

Additional theories. The review of different theories provides additional insight to small business funding strategies. The essence of resource dependency theory is that the success of the firm is dependent upon the ability to gain resources and the connection between the organization and its environment (Hofer, Jin, Swanson, Waller, & Williams, 2012; Jones & Jayawarna, 2010; Singh, Power, & Chuong, 2011). An organization that lacks a resource will search the environment to find that resource, and do what is necessary to gain resources needed (Singh et al., 2011). Resource constraint theory builds on the concept of available resources and aligns with the theory of resource dependencies (Jones & Jayawarna, 2010; Salimath & Jones, 2011). Resource constraint theory follows the concept that if resources are fewer than what is necessary to fulfill operational requirements, applications of the available resources used will gain the most efficiency from the use (Jones & Jayawarna, 2010; Salimath & Jones, 2011). The system uses available resources in a way that maximizes efficiency and applies resource usage in a meaningful way (Grichnik et al., 2014). The linkage of an organization to its environment leaves entrepreneurs to search out required resources or find alternative methods for implementing the resources available to fit the needs of the business (Hofer et al., 2012; Salimath & Jones, 2011; Singh et al., 2011).

An organization that seeks to control resources within its environment can lead to

an agency problem (Sorheim, Widding, Oust, & Madsen, 2011). The interests of the owner of the firm and the financier may not align, creating friction in the relationship (Sorheim et al., 2011). Agency theory indicates that the formation of a positive relationship is two-fold; the relationships between stakeholders and managers or owners, as well as between stakeholders and debt holders, need balance to appease both areas (Ramalho & Da Silva, 2009).

Wu (2010) stated that the effects of following financial contracting theory might reduce the effects of agency theory because of the presence of the debt contract. Management monitors the holder of the debt contract closely, which in turn reduces agency effects (Sorheim et al., 2011; Wu, 2010). Using this method can help align the interests of both contracted parties, minimizing agency effects (Sorheim et al., 2011). Wu (2010) found that retained ownership results in increased efforts by the entrepreneur, owner, or manager, benefiting both the firm and the operating environment.

Capital structure changes over time. Capital structure is a mix of debt to equity used by an entrepreneur to fund the finances of a firm (Fatoki, 2013). Several researchers have found that capital structure can change over time (Coad, Segarra, & Teruel, 2013; Serrasqueiro & Nunes, 2012; Van Caneghem & Van Campenhout, 2012). As a business ages, new financial options become available to the entrepreneur (Serrasqueiro & Nunes, 2012). Younger firms experience higher levels of financial constraint, affecting the structure of the organization (Coad et al., 2013; Forte et al., 2013). Younger firms tend to have a higher debt-to-asset ratio and are more dependent on internal cash flow (Coad et al., 2013; Forte et al., 2013). As firms age, the debt-to-asset ratio decreases (Coad et al.,

2013). Forte et al. (2013) found that there is a negative relationship between firm profitability and the leverage ratio.

External Funding Sources

Writers for the USSBA (2010b) stated that credit conditions for small businesses are improving. The improvement has been due to government initiatives in the small business lending industry making outside financing a viable option to fulfill small business funding needs (Geho & Frakes, 2013; USSBA, 2010b). Many options for external funding are available. Options include government financing and programs, bank loans, angel investors, venture capitalists, and initial public offerings (Coleman & Robb, 2012). External financing sources can be a benefit to a company in terms of raising capital. At the same time, a negative effect on the business may result.

Loans from a financial institution. Enacted government initiatives increased the financing available to small businesses (USSBA, 2010b). Although the funding level for small businesses has increased, difficulties are associated with the procurement of a loan (USSBA, 2010b). Agents of lending institutions often view small businesses as a credit risk (Van Caneghem & Van Campenhout, 2012). As a result, business owners may be required to present an extensive business plan and demonstrate evidence that their firm will succeed or put up personal credit as a guarantee (Van Auken, 2005). In addition to the plan, a bank may only issue a secured loan (Neeley & Van Auken, 2012; Posey & Reichert, 2011) or require a loan guarantee before extending credit (Posey & Reichert, 2011). Entrepreneurs may need to provide personal assets as collateral for the loan (Neeley & Van Auken, 2012; Posey & Reichert, 2011; Servon et al., 2010).

Private lenders and public offerings. Angel investors, or informal investors, venture capitalists, and public offerings may help to finance a firm by providing funds and a network of support (Bayrasli, 2012). In exchange for funding private lenders may want an active role in the business. An angel investor may request board seats or otherwise be involved in the decision-making process (Collewaert, 2012). Venture capitalists may assist in the funding of a business, provide a support network, and offer industry knowledge in exchange for other benefits (Bayrasli, 2012; St-Pierre, Nomo, & Pilaeva, 2011). Issuance of an initial public offering may raise capital but involves the sale of stock to public investors.

Using an angel investor, venture capitalist, or initial public offering may raise capital but each also has the potential for an entrepreneur to experience a partial loss of control over the business (Smith, 2009). Investors may require a managerial role, want to provide information, or require the authority over the entrepreneur (St-Pierre et al., 2011). Loss of control of the business presents an unfavorable option for entrepreneurs (Newman et al., 2012).

Negative effects of external financing. In general, entrepreneurs who use higher levels of external financing are more financially constrained (Schiff et al., 2010). For a new or younger business, financial constraints may have detrimental effects. Being short on cash, an entrepreneur may acquire additional debt during the startup phase, which may not be a positive strategic move (Van Auken & Neeley, 1996). Being vulnerable to cash flow shortages (Schiff et al., 2010), debt repayment may be difficult during the younger business phases, creating additional hardships on the entrepreneur (Van Auken & Neeley,

1996). A higher chance of failure exists when financial difficulties are present in young firms.

Lack of funding leads to bootstrapping. Traditionally, small business entrepreneurs have difficulty in attracting outside financing (Cassar, 2004; Ebben & Johnson, 2011; Van Auken & Neeley, 1996). The difficulties arise from business size, information asymmetries, market constraints and conditions, economic factors of the environment, a lack of reputation, and business objectives (Van Auken & Neeley, 1996; Veselinova & Samonikov, 2012). Potential lenders and investors may be wary of providing funding (Van Auken, 2005). Lender options may come with strings attached or may not cover the total financial need of the entrepreneur (Van Auken, 2005). The lack of access to capital leads to the need for entrepreneurs to seek alternative funding options (Geho & Frakes, 2013; Grichnik et al., 2014; Radojevich-Kelley, 2011). Limited external options cause entrepreneurs to use bootstrap financing to fill funding needs.

Overview of Bootstrap Finance

Based on the evidence within the literature, the ability to bootstrap is a skill set that an entrepreneur needs to develop for a business to be successful (Ebben & Johnson, 2006; Van Auken & Neeley, 1996). Entrepreneurs who have trouble in attaining funds or who find external funding undesirable will need to think creatively to meet funding goals. New information may benefit entrepreneurs in strategy development for their business by adding to their skillset (Jusoh, Ziyae, Asimiran, & Kadir, 2011; Seghers, Manigart, & Vanacker, 2012; Zhang & Van Auken, 2011).

Definition of bootstrap finance. Traditional funding sources for small businesses

include funds from lending institutions, venture capital, and personal savings of the entrepreneur (Servon et al., 2010; Van Auken & Neeley, 1996). When traditional funds do not cover the complete expenses associated with a startup business, entrepreneurs must seek alternatives. Known as bootstrap finance techniques, the sources are typically internal to the business.

Multiple researchers (Ebben & Johnson, 2006; Van Auken & Neeley, 1996; Winborg & Landstrom, 2001) have defined bootstrap financing, contributing to a common understanding and definition of the financing methodology. Bootstrapping is a method of gaining new or stretching current financial resources essential to the operation of the business (Neeley & Van Auken, 2009). Bootstrapping is the implementation of a variety of methods to fund a business and stresses internal financing methods, with minimal amounts of debt and equity financing, or from nontraditional sources (Ebben & Johnson, 2006; Osei-Assibey et al., 2012; Van Auken & Neeley, 1996). Using bootstrap techniques fulfills the needs of the business by not using as much long-term external finance. A strong understanding of what bootstrap finance is in the business world can aid entrepreneurs who seek to benefit from its use.

Outlining the accepted definitions of bootstrap finance helps to explain the background on internal finance techniques. Understanding the term *bootstrap finance* opens the door to determining bootstrap methods and the potential importance of the methods to an entrepreneur. Understanding the methods and definitions may allow an entrepreneur to integrate bootstrapping techniques into the strategic plan of a small business.

Identified bootstrapping methods. Multiple researchers have identified methods commonly used by bootstrapping entrepreneurs (Jones & Jayawarna, 2010; Winborg & Landstrom, 2001). Common techniques include owner financing, loans from friends or family, credit cards, trade credits, and leases (Ayyagari, Demirguc-Kunt, & Maksimovic, 2010; Bosse & Arnold, 2010; Neeley & Van Auken, 2009; Radojevich-Kelley, 2011; Reynolds, 2011; Van Auken & Neeley, 1996). Explanation and identification of these methods varies slightly within the literature. A study by Winborg and Landstrom (2001) is the accepted primary identifier of bootstrapping methods. Numerous researchers (Bosse & Arnold, 2010; Neeley & Van Auken, 2009, 2010; Perry, Chandler, Yao, & Wolff, 2011; Winborg, 2009) refer to the study and use the Winborg and Landstrom survey tool.

Through a comprehensive study of Swedish small businesses, Winborg and Landstrom (2001) identified 32 methods of bootstrapping. The identified methods separated into six categories of (1) owner financing, (2) minimizing accounts receivable, (3) joint utilization of resources, (4) delaying payments of accounts payable, (5) minimizing stock, and (6) subsidy financing (Winborg & Landstrom, 2001). I have included a detailed listing of common bootstrap techniques as identified by the literature in Appendix D.

Social networks. In addition to tangible bootstrapping techniques, social networks are a viable, intangible bootstrap method (Jones & Jayawarna, 2010; Korunka et al., 2010; Lam, 2010; Sengupta, 2011; Wiklund et al., 2009). Strategically built networks of relationships allow an entrepreneur access to necessary resources (Jonnson & Lindbergh,

2013; Sengupta, 2011). By building a strategic network or increasing social capital, entrepreneurs can assemble and organize resources necessary to business operations (Sengupta, 2011). Diversifying and increasing the resources within the social network increases its benefits to the entrepreneur (Manolova, Manev, & Gyoshev, 2013). The entrepreneur receives information about financing alternatives and gains access to resources by capitalizing on the network (Jonnson & Lindbergh, 2013; Seghers et al., 2012). In this way, social networks can influence and educate entrepreneurs about bootstrap methods (Seghers et al., 2012).

Through the leveraging of social network ties, entrepreneurs may gain many benefits (Manolova et al., 2013). Network connections with individuals may provide access to traditional bootstrapping resources (Jones & Jayawarna, 2010). Through communication with members of their network, entrepreneurs can learn skills, gain knowledge, and find information (Jones & Jayawarna, 2010; Jonnson & Lindbergh, 2013; Seghers et al., 2012). Researchers (Lam, 2010; Saparito, Elam, & Brush, 2013) have found that a social network can have positive effects on an entrepreneur.

Lam (2010) studied the social network of investment groups in Hong Kong called "*hui.*" Defined as an informal savings clubs, members of a *hui* fund businesses through use of a social network. *Hui* are similar to credit unions, consist of members who are family, friends, or otherwise part of a social network, and require each member to submit incremental payments. Differing from a credit union, proposals are informal in terms of the business scope and the fact that individual lenders benefit from the loan. *Hui* members submit a bid for the saved amount, including the total interest the individual is

willing to pay the other members for use of the saved funds. The borrower repays the loan in installments. According to research by Lam (2010), the use of a *hui* is one of the top informal methods for gaining financing in Hong Kong.

Jones and Jayawarna (2010) and Lam (2010) demonstrated that social networks are a valuable resource for bootstrapping entrepreneurs. Viewed as an intangible bootstrapping method, as much of the benefit received from a network is not quantifiable in dollars, social networks are important for small business finance. As demonstrated through past studies and examples, a social network can provide benefits to the entrepreneur, increasing the chances of business survival (Lam, 2010).

Who Uses Bootstrap Financing

Researchers (Cassar, 2004; Neeley & Van Auken, 2009; 2010; Van Auken & Neeley, 1996) have worked to identify the characteristics of firms, managers, and entrepreneurs who are likely to use bootstrapping techniques. Understanding the characteristics of firms and entrepreneurs who use bootstrapping techniques will help to identify the demographics for the target population for the current study. The reasoning behind the decision to use bootstrapping techniques can help in examining the correlation between bootstrap finance, number of employees, and small business success as measured by business age.

Size of the firm. Cassar (2004) explained that the size influenced the decision or necessity of a firm's need to bootstrap. Businesses within the categories of sole proprietor, partnership, or limited liability company (LLC) tend to be smaller organizations. Cassar (2004) found a positive correlation between size and leverage,

long-term leverage, bank financing, and outside financing of small businesses. Lim (2012) and Miettinen and Virtanen (2013) confirmed a correlation between firm size and financial leverage. Van Caneghem and Van Campenhout (2012) found that firms with better quality and higher quantity of financial data had more leverage in attaining debt financing. Van Caneghem and Van Campenhout (2012) found that firm size and profitability had a negative relationship with leverage.

Sole proprietors are the type of business identified most frequently as using bootstrapping techniques, followed by partnerships and LLCs (Van Auken & Neeley, 1996). Based on size, entrepreneurs of sole proprietors, partnerships, and LLCs look toward internal financing techniques prior to using external methods (Degryse et al., 2012).

Characteristics of an entrepreneur. Neeley and Van Auken (2009) studied the personal characteristics of the business owners who use bootstrapping. The conclusion was that college-educated entrepreneurs frequently used self-funded bootstrapping techniques, whereas non college-educated business owners favored inventory-focused techniques (Neeley & Van Auken, 2009, 2010). Irwin and Scott (2010) and Grichnik et al. (2014) confirmed the finding that higher levels of education led to higher levels of bootstrap finance usage. Entrepreneurs that are under the age of 51 use more customer-based techniques (Neeley & Van Auken, 2009). Males shared resources with other businesses and used self-funded methods more often than females; females employed customer-based methods more than males (Neeley & Van Auken, 2009). However, Coleman and Kariv (2013) found no gender difference.

Entrepreneurial perceptions. Entrepreneurs have many reasons for making the decision to own and operate their business. Along with the reasons to own a business are differing perceptions about personal ability, opportunities, and limitations. Entrepreneurial perceptions and goals for the business can influence financing decisions (Neeley & Van Auken, 2010).

The perceptions of the entrepreneur can play a role in the financing strategy of a small business (Neeley & Van Auken, 2010). The beliefs of the entrepreneur, or his or her perceptions of the environment, can motivate the financing methods pursued by an entrepreneur (Grichnik et al., 2014; Neeley & Van Auken, 2010). Owners and managers who are not confident in their abilities tend to use personal financing techniques more often than other bootstrapping methods (Neeley & Van Auken, 2010). Entrepreneurs who view the environment as hostile tend to use bootstrapping techniques over traditional techniques (Grichnik et al., 2014). Using bootstrapping techniques gives the entrepreneur a sense of having mitigated the risks associated with the business.

Why Bootstrap

Researchers (Neeley & Van Auken, 2009; 2010; Van Auken & Neeley, 1996) have found multiple situations, reasoning, and theories supporting the arguments for using bootstrapping strategies within an organization's financial model. Traditional financial theory assumes that the capital market is perfect, with all businesses, regardless of size or other characteristics, having equal access to debt and equity markets (Rahaman, 2011; Van Auken & Neeley, 1996). Possibly true for large businesses, the traditional financial theory does not hold for the small business arena (Neeley & Van Auken, 2010;

Van Auken & Neeley, 1996). Imperfections of debt and equity markets mean that small business owners do not have the same access to markets as the managers of a large firm would have (Neeley & Van Auken, 2010; Rahaman, 2011; Van Auken & Neeley, 1996). Contributing factors hindering entrepreneurs from access to traditional financial avenues include information asymmetries, stringent regulations, and the costs associated with debt and equity (Geho & Frakes, 2013; Guariglia et al., 2011; Van Auken & Neeley, 1996; Vasiliou et al., 2009). The inability to use traditional external markets leaves an entrepreneur to acquire secured debt or search for alternative funding methods (Van Auken & Neeley, 1996).

Financial obstacles. Various roadblocks mark the path for a small business owner to obtain financing (Seghers et al., 2012). The obstacles include information asymmetries, the cost associated with attaining debt equity, the requirement for an entrepreneur to secure acquired debt, and the inability or unwillingness to involve venture capitalists or angel investors (Van Auken & Neeley, 1996; Vasiliou et al., 2009; Posey & Reichert, 2011). Cassar (2004) studied financing choices for a business startup. The choices for financing change depending upon the size of the startup, characteristics of an entrepreneur, types of assets held by the business, and the stage of the business lifecycle (Cassar, 2004).

Owners of small businesses face information asymmetries (Serrasqueiro & Nunes, 2012). Information asymmetries occur when one person has more information about the business than the other does, or when information is not obvious to all parties involved (Irwin & Scott, 2010; Van Auken & Neeley, 1996; Vasiliou et al., 2009). Management of

the business may have more information than potential investors have. The information may be difficult to relay to an investor, resulting in an inability to evaluate the information. As a result, an undervaluing of the firm may occur (Van Caneghem & Van Campenhout, 2012; Vasiliou et al., 2009). Difficulties with information asymmetries arise from the startup phase of a business; assets held by the organization are often intangible and knowledge based (Paul et al., 2007). An entrepreneur may have information regarding the value of the firm's assets, but potential investors and lenders must use their perceptions in evaluating the firm (Paul et al., 2007).

In the case of a startup firm, traditional signals, such as historical data or sales used to show the value of the firm, might not be available (Paul et al., 2007). Lack of signaling to the market means potential lenders and investors may not have information conveying the health of the firm (Djupdal & Westhead, 2013; Saparito et al., 2013). A lack of information signaled to the market minimizes the ability of an entrepreneur to attain outside capital (Guariglia et al., 2011).

Business classifications, such as an LLC, corporation, or sole proprietorship, influence the ability of an entrepreneur to attain financing. Van Auken and Neeley (1996) found that potential investors considered sole proprietors and single owner LLCs as allowed in NH riskier as only one person invests in the success of the business. Organizations that have multiple owners, such as a partnership, corporation, or multi-person LLC, minimize risk to potential investors. Having many owners spread out repayment among multiple parties (Van Auken & Neeley, 1996). Van Auken and Neeley (1996) also found that business owners hindered by classifications might rely on

bootstrap financing techniques to cover areas for which financing from external sources falls short.

The function of the business, whether a growth investment or lifestyle choice for an entrepreneur, further affects the ability of an entrepreneur to attain financing (Van Auken & Neeley, 1996). Entrepreneurs seeking large growth with their business may be more apt to use funding sources that help to raise larger amounts of capital, providing a low performance threshold (Perry et al., 2011). For entrepreneurs who focus on a particular lifestyle, external financing for growth becomes unnecessary (Ramalho & da Silva, 2009).

According to Van Auken and Neeley (1996), entrepreneurs will develop a funding strategy based on the information possessed regarding funding opportunities. Information on alternative funding sources may vary among industries, communities, and networks, affecting the financial structure of the institution (Van Auken & Neeley, 1996; Zhang & Van Auken, 2011). For example, Van Auken and Neeley (1996) stated that lack of available information might result in businesses in smaller communities using higher levels of bootstrapping than businesses in larger communities. Counterparts in larger communities tended to use external funding techniques because of a larger information base (Van Auken & Neeley, 1996). Additional information on funding strategies will broaden the basis for entrepreneurs to create appropriate financing strategies (Zhang & Van Auken, 2011).

Conscious choice. Studies by Grichnik et al. (2014) and Winborg (2009) provided results showing that small business owners and managers made a conscious

choice to use bootstrap techniques. The information contradicted previous studies that found that entrepreneurs use bootstrapping to combat the lack of capital or as a last resort (Winborg & Landstrom, 2001). Salimath and Jones (2011) took the idea further, suggesting a relationship between scientific management and bootstrapping as a strategic business approach.

Winborg (2009) found that entrepreneur motives for use of bootstrapping techniques included lack of capital, lower costs, fun from helping others, saving time, and reducing risk. As an entrepreneur gains more knowledge and experience with bootstrapping, and additional benefits could aid the business, presenting further motives (Winborg, 2009). The benefits include minimal scrutiny from outside sources, controlled expenses, reduced turnover, and a stronger owner skillset (Jones & Jayawarna, 2010; Paul et al., 2007; Vasiliou et al., 2009).

Benefits to bootstrapping. Financing issues require small business owners to look toward bootstrapping as a conscious funding strategy or out of lack of other options. Regardless of the reasoning for choosing bootstrap methods, numerous benefits can result. Internal financing may help entrepreneurs avoid outside scrutiny of investors or lenders, counteracting information asymmetry limitations (Paul et al., 2007; Vasiliou et al., 2009). Entrepreneurs can minimize and control, positioning the company better for debt or equity in the future (Jones & Jayawarna, 2010).

With less debt and an emphasis on internal financing, a culture of leanness and efficiency will emerge, allowing an organization to control expenses (Jones & Jayawarna, 2010). Internal financing will lower or eliminate transaction costs. Lower transaction

costs allow an organization to gain capital without incurring additional expenses or putting up collateral (Neeley & Van Auken, 2010; Van Caneghem & Van Campenhout, 2012; Vasiliou et al., 2009). The ability to control expenses can be a survival strategy for the organization in a competitive market or during a time of economic recession, allow effective management of customers, and promote a sales driven mentality (Jones & Jayawarna, 2010). Maintaining lean operations increases respect and legitimacy from potential stakeholders, positioning the company to attain debt or equity for future necessities (Jones & Jayawarna, 2010).

Several benefits beyond cost containment exist. These benefits include increased profit, maintaining control of the business, and increased problem-solving skills. There is a correlation between increased profit and lower debt (Almeida & Campello, 2010; Silva & Santos, 2012). Highly profitable firms tend to have less debt than those with low profits (Vasiliou et al., 2009). Ayyagari et al. (2010) found that small businesses in China experienced higher growth rates by combining internal financing with informal external financing techniques. The study by Ayyagari et al. (2010) proved that productivity increased with the use of internal financing techniques. Eliminating investments by angel investors or venture capitalists enabled entrepreneurs to maintain full control of their business (Paul et al., 2007). Firms can solve otherwise hidden or unresolved problems by using bootstrap techniques (Neeley & Van Auken, 2010). Entrepreneurs using external bootstrapping techniques during the startup phase have a higher rate of successful emergence into the marketplace (Perry et al., 2011). Strategic implementation of bootstrapping techniques has proven to provide a business with a financial market

advantage (Neeley & Van Auken, 2010).

Arguments Against Bootstrapping

Opponents of bootstrapping have stated that the constraints of using internal financing techniques over debt and equity limit the ability of a firm to grow (Ayyagari et al., 2010; Vanacker et al., 2011). From a broad perspective, financial leverage is positively related to firm growth and negatively related to profitability (Gill, Mand, Sharma, & Mathur, 2012). Further exploring the topic, Guariglia et al. (2011) as well as Bottazzi, Secchi, and Tamagni (2014) studied the internal finance theory of growth and financial constraints. Bottazzi et al. (2014) confirmed that financial constraints could limit the ability of a firm to grow or survive. The ability to attain external funds or additional financial leverage was essential for firm growth (Guariglia et al., 2011; Bottazzi et al., 2014). The motivation of the owner may minimize or eliminate the growth limitation factor. If the motivation is to provide a certain lifestyle over creating a high growth organization, the limitations of bootstrapping are irrelevant.

Patel, Fiet, and Sohl (2011) found that the excessive use of bootstrapping techniques could have negative effects on firm growth. The researchers suggested that the use of bootstrapping beyond a certain point in the business lifecycle might not always be an effective method (Patel et al., 2011). Overuse of bootstrapping can be detrimental to the business.

Bootstrap Financing and Life Phases

The majority of small business entrepreneurs, regardless of the business stage, use bootstrapping techniques at some point in the life of the business (Winborg & Landstrom,

2001). Funding methods will vary depending upon the stage of the lifecycle a business is in (Cassar, 2004). The changing funding methods may result from information asymmetries, asset structure, scale, financial demands, and opportunities for growth (Cassar, 2004). The use of bootstrapping techniques tends to decrease over time as the business becomes more self-supportive, and has access to alternative financing means (Grichnik et al., 2014).

Relationship Between Firm Age and Firm Size

According to Gibrat's Law, firm size and age are independent (Reid & Xu, 2012). This law holds true for large firms but not for small firms (Reid & Xu, 2012). When researchers studied small businesses, an inverse relationship between size and age emerged (Reid & Xu, 2012). These findings contradict findings by Fackler, Schnabel and Wagner (2013) and Giovannetti, Ricchuiti, and Velucchi (2011) who determined that size positively influences firm age. Due to traditional market competition, survival rates decrease (Fackler et al., 2013; Giovannetti et al., 2011). The inconsistency of the findings makes the data on the topic inconclusive.

Growth in younger firms happens more rapidly than in older firms (Coad et al., 2013; Reid & Xu, 2012). Fort, Haltiwanger, Jarmin, and Miranda (2013) found that younger firms have a higher net employment growth rate than older firms during strong economic conditions. Serrasqueiro and Nunes (2012) found that for young firms, size, age, profitability, asset tangibility, and growth contribute positively to firm survival. Each of these characteristics allows for an entrepreneur to access capital, which enables a company to grow (Veselinova & Samonikov, 2012). With no control for firm age,

Haltiwanger, Jarmin, and Miranda (2013) found an inverse relationship between the size of the firm and net growth rates. Removing controls for age did not result in an inverse relationship between age and size (Haltiwanger et al., 2013). Without access to capital due to firm age and size, an entrepreneur may need to utilize bootstrapping techniques to meet financing needs.

Transition and Summary

Section 1 was an introduction to the research study on bootstrap finance and provided more data for entrepreneurs to use when determining a funding strategy. The literature supported the need for the current study, which may allow entrepreneurs to make informed financial decisions, aid in strategic planning, and provide tools to help a small business survive during a recession. Providing additional information on bootstrapping techniques and any potential relationship with business success, as measured by business age and number of employees, reduced the gaps in the literature while helping entrepreneurs to plan for their financial future.

The following section includes the procedures used for collecting data for the current study, and the application the information has for small businesses within the state of NH. The objective of Section 2 is to defend the design methodology, identify the survey population, and explain in detail the survey and information gathering procedures. A detailed analysis of the results and implications of the findings are in Section 3.

Section 2: The Project

Less than half of new small businesses are in existence by the date of the fifth anniversary (USSBA, 2010a; Yang, 2012). Small businesses provide employment for over half of the nation's private-sector employees and account for 64% of net new jobs within the past 15 years, making the issue of small business survival critical for job creation (Baptista & Preto, 2011; Neumark et al., 2011; USSBA, 2010a). According to the literature, adequate capital plays a significant role in small business survival (Ebben & Johnson, 2006; 2011; Lussier & Halabi, 2010). Entrepreneurs must search for other means of raising capital because traditional sources may not always be available for funding small businesses (Ebben & Johnson, 2006; Van Auken & Neeley, 1996). Entrepreneurs can begin to mitigate the challenges associated with owning a small business through an increased awareness of alternative financing methods.

I used a correlational quantitative methodology to study the correlation between the continual use of bootstrap financing techniques as a stable funding strategy, firm size, and business success as measured by business age. Section 2 includes the purpose of the current study and my role as the researcher in data collection and analysis. Section 2 also outlines participant selection, the research method and design, and data collection procedures.

Purpose Statement

The purpose of the correlational quantitative study was to examine the efficacy of bootstrap financing and number of employees in predicting business success as measured by business age. The independent variables were the business bootstrap financing

reported score and the number of company employees. The dependent variable was the age of the firm. The targeted population was composed of small business owners within the state of NH who had been in business for a minimum of 5 years.

Studying the correlation between bootstrap finance use, number of employees, and business success measured by business age presented additional information for entrepreneurs to use in making financial decisions (Chittithaworn et al., 2011). Knowledge of funding options beyond debt or equity may benefit entrepreneurs by providing alternative financial options that may aid in business success and survival. Society benefits from the increased survival rates of small businesses. The success and survival of small businesses are essential to employment, new technology, and the economy (Baptista & Preto, 2011; Gorgievski et al., 2011; Islam et al., 2011; Neumark et al., 2011; Yilmazer & Schrank, 2010).

Role of the Researcher

I gathered the data for the quantitative study, found participants who met the demographics of the study, and analyzed the data. I am accountable for the quality, validity, reliability, and confidentiality of the data. I ensured that the current study was valid and reliable, remained in compliance with ethical and Institutional Review Board (IRB) considerations, and encouraged open and honest responses from participants. I was responsible for study design, using tested data collection instruments and convenience sampling for the selection of participants. I was responsible for analyzing information and drawing valid and contributive conclusions.

Participants

Participants consisted of NH entrepreneurs with businesses that met classification criteria for a small business according to the North American Industry Classification System (USSBA, 2010c). Qualified participants were selected based on convenience, had the option to participate, and fit the required demographics. Solicitations to participants occurred through e-mail requests, creating a convenience sample (Gill et al., 2012).

The crossover between business groups, available participants, and demographics limited the results of the current study. Due to the confidentiality of the surveys, duplicate survey participation and responses were possible. Participants received a disclosure stating that participation was not repeatable. The identities of the participants are confidential, in association with IRB requirements.

The research process provided for the confidentiality of the participants. As part of the survey procedure, participants received notification of the confidentiality of the survey and had an opportunity to consent. Any participant unwilling to provide consent was disqualified and unable to complete the survey. The consent form is available in Appendix E. Participants submitted data anonymously, with no link to the individual. I stored electronic data on a password-protected computer system. After a period of 5 years, the destruction of files will occur by shredding or deleting files.

Sample Size

A power analysis using GPower3 software was conducted to determine the appropriate sample size for the study. An a priori power analysis, assuming a medium effect size ($F = .15$), a = .05 indicated that a minimum sample size of 68 participants is

required to achieve a power of .80. Increasing the sample size to 110 increased power to .95. Therefore, I sought between 68 and 110 participants for the study (Figure 1).

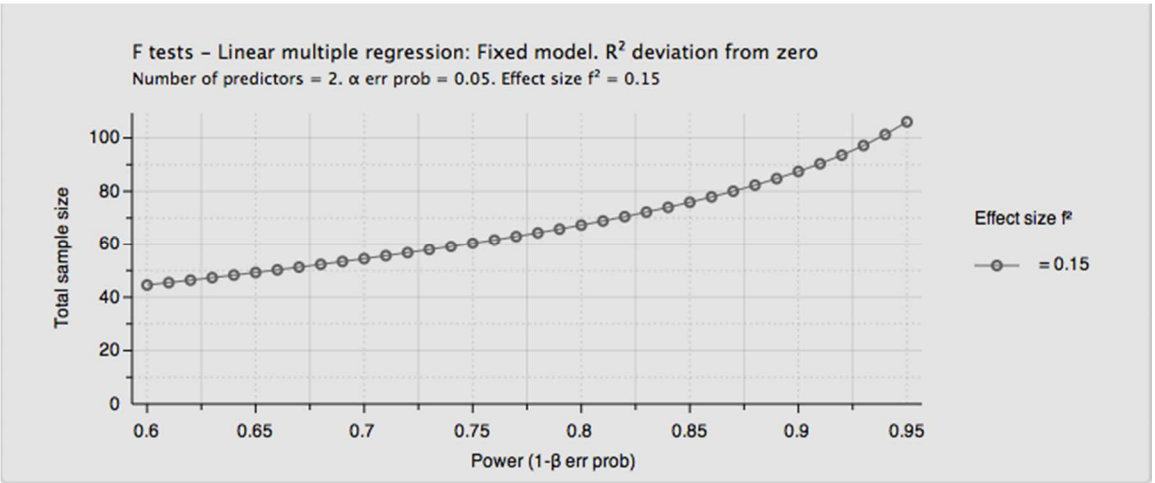

Figure 1. Power as a function of sample size.

Research Method and Design

The current study of the correlation among continual use of bootstrap financing techniques, number of employees, and business success as measured by business age followed a predictive correlational quantitative research method with a survey design as detailed in the following section.

Method

The current study used a predictive correlational quantitative research method with a cross-sectional survey design to study the correlation among bootstrap finance, number of employees, and business success as measured by business age. Use of the method allowed for statistical analysis of numerical data for trends and patterns and enabled a systematic evaluation of relationships within the data (Sousa et al., 2007). With a focus on finance, a quantitative analysis provided a more thorough understanding of a

possible correlation among the use of bootstrap techniques as a stable funding strategy, number of employees, and business success as measured by business age more effectively than through a qualitative study. For this reason, a qualitative study was inappropriate.

A mixed methods approach was unsuitable for the study. The challenges involved with the type of study led to the rejection of a mixed method design (Leech, Dellinger, Brannagan, & Tanaka, 2010). There is no coherent method for combining qualitative results with quantitative data to achieve the study goals (Doyle et al., 2009). Constraints on time and resources also made a mixed methods approach impractical (Doyle et al., 2009). Studies of bootstrapping techniques tend to favor the use of quantitative methods; remaining consistent with a quantitative study enabled building upon the work of previous scholars and allowed data from the study to be easily compared with information discovered by other researchers within the field.

Research Design

The current study used a predictive correlational quantitative research method with a cross-sectional survey design (Williams, 2007). The design permitted inferences about entrepreneurs and the use of bootstrap financing for small businesses (Williams, 2007). The survey was cross-sectional, providing data at a point in time for the surveyed population (Rindfleisch et al., 2008; Sousa et al., 2007; Williams, 2007). Cross-sectional data collection is one of the most common methods of empirical data collection, which allowed the current study to align with other designs used throughout research fields (Rindfleisch et al., 2008). The administration of the survey occurred through an online

forum called SurveyMonkey. Completion of the online survey could occur at a time convenient to the participant. Distribution of invitations to participate in the survey occurred through e-mail requests.

Population and Sampling

The polled population consisted of NH small business owners who had businesses that met classification criteria for small business as outlined by the North American Industry Classification System and had been in business for a minimum of 5 years. In the state of New Hampshire, statistics for the first quarter for 2012 reporting of firm sizes showed 36,358 private firms operating (NH Economic and Labor Market Information Bureau [NHELMI], 2012). Of the private firms in NH, 34,457 employ fewer than 500 employees (NHELMI, 2012). The sample size in relation to the population of small businesses was between 68 and 110 respondents. To achieve the number of respondents, tracking of the number of submitted responses ensured attainment of the goal of 68 to 110 respondents. A power analysis using GPower3 software calculated the number of respondents required. To achieve a power of .80, an a priori power analysis assumed a medium effect size ($F = .15$). Increasing the sample size to 110 participants increased the power to .95.

The design used a sample of convenience, with solicitations issued through e-mail requests for survey participation. I sent survey requests to public e-mail listings on chambers of commerce websites. Due to the privacy of chamber members, some chambers preferred not to make e-mail addresses public. The study used a convenience sample, which is consistent with the work on bootstrapping conducted by Gill et al.

(2012).

Ethical Research

I included the consent form on the home page of the online survey, and consent was the first survey question (see Appendix E). The consent form outlined the purpose of the study and rights of the participants, addressed incentives, listed risks and benefits, and explained the confidential nature of the survey (Budin-Ljosne, Tasse, Knoppers, & Harris, 2011; Shaw et al., 2011).

Participants did not provide identifying information such as name or affiliated business. No identifiable link to gathered data matched individual participants because of the confidential nature of the study (Shaw et al., 2011). Gathered data have been electronically stored on a computer system with password access. At the end of an appropriate holding period, to be no less than 5 years, the destruction of data shall occur through use of a shredder or deleting files from computer hard drives and backup files.

Participants did not receive incentives for their participation. Anyone wishing to attain an electronic copy of the results in the form of a copy of the completed study or as a summary sent an e-mail to BootstrapStudyNH@gmail.com. Results are available to all interested parties, regardless of their survey participation. The creation of a separate e-mail address and data collection procedure ensured that identifying information for the individual could not be associated with direct results.

Participants acknowledged and participated in the consent process prior to beginning the survey (Budin-Ljosne et al., 2011). The first page of the survey was the release form. In order to continue with participation, participants were required to check

off the box that stated that they agreed to the terms. If a participant did not agree to the terms, the survey would not progress. Participants could withdraw from the survey process at any time by discontinuing or by not starting the survey.

Data Collection

The data collection section identifies the method of data collection with the survey instrument, as well as the collection methods and organization techniques employed. The survey instrument was adapted from past studies with permission, eliminating the need for a pilot study and building reliability and validity (see Appendix G and Appendix H). Data collection used an online survey tool. Tracking of data required Statistical Package for the Social Sciences (SPSS) software. Use of SPSS software provided for a thorough analysis of the data and the ability to check the accuracy of calculations.

Instruments

The survey was composed of questions used by two groups of researchers, with written permission provided by the copyright holders for both of the prior projects (see Appendix G and Appendix H). Van Auken (2005) used the first survey, entitled Acquisition of Capital, for a study of bootstrapping activities between technology and non technology firms. The instrument consisted of Likert scales and multiple-choice questions. Van Auken (2005) pretested and validated the survey in 2001 (Van Auken, 2005). The 6-point Likert-type scale used for the survey has its foundation in Winborg and Landstrom's 2001 study, lending validity and reliability to the survey instrument. My discussions with Dr. Van Auken revealed that validity and reliability statistics are no

longer available for the survey questions. A wide range of researchers' use of the survey in multiple countries with the production of similar results proves the reliability and validity of the survey questions (Van Auken, 2005, Winborg & Lanstrom, 2001).

Perry et al. (2011) used the second survey, Entrepreneurial Study, which researchers at the University of Michigan designed. The University of Michigan allowed replication with the proper citation to the Panel Study of Entrepreneurial Dynamics, Institute for Social Research. Reliability and validity statistics for the survey questions are unavailable. Researchers (Perry et al., 2011; Reynolds, 2011) established reliability and validity of the survey by finding similar results. The Institute for Social Research used the survey questions for the Panel Study of Entrepreneurial Dynamics (PSED) I and II studies, as did other researchers in the field, including Perry et al. (2011) and Reynolds (2011), providing survey validity. Questions from the survey are included for the research project to determine entrepreneurial motivation for running a small business, stage of lifecycle, and additional business demographics. Appendix C includes a blank survey as used for the study.

Data calculation involved univariate statistics and a multiple linear regression (Pallant, 2010; Singh, 2011). A multiple linear regression allowed me to predict a quantitative outcome variable from the independent variables (Pallant, 2010).

Data gathered from the survey instrument are included in the data table as part of the appendix of the doctoral study. The appendix includes the raw data, calculations, and results of the surveys. I uploaded survey data collected online to an SPSS database. Tables 1 through 7 of Section 3 display collected data.

Data Collection Technique

I collected data using a web-based survey tool called SurveyMonkey. Potential participants received a request to participate in the online survey through e-mail, which included a link to the survey. Using an e-mail delivery method for surveys lowered anticipated costs and ensured faster delivery of the surveys (Fan & Yan, 2010). I determined the additional contacts from chamber of commerce websites and small business institutional databases. E-mailed participants had a 4-week period for completion of the survey. I sent a reminder to participate after the second week of the participation period.

Selected survey questions were from validated survey instruments and used with permission (Perry et al., 2011; Van Auken, 2005; Zhang & Van Auken, 2011). Past studies by Perry et al. (2011) and Van Auken (2005) showed that the instruments are valid, and a pilot study was not necessary. Questions used on the survey are included in Appendix C.

Data Organization Techniques

I will keep data in an organized fashion, with raw data entered into databases. Anonymity played an integral role for study participants. There is no link between online survey completions and personal email addresses or other information. Information will remain password protected for both the immediate and backup files and maintained for a minimum of 5 years.

Data Analysis Technique

The use of standard multiple linear regression assessed the significance of the

independent variables in predicting the dependent variable. Multiple linear regression was appropriate as it allowed me to predict a quantitative outcome variable from multiple quantitative predictors, or independent variables (Pallant, 2010). I considered several bivariate analyses but deemed them less powerful, as multiple univariate tests would inflate the Type I error rate and require a Bonferroni correction method. The use of a Bonferroni correction method would require a much more stringent and significant level (Pallant, 2010).

Survey Questions

Survey questions came from surveys issued previously by Howard Van Auken, entitled Acquisition of Capital, and the University of Michigan Survey Research Center, Entrepreneurial Study – Wave F Questionnaire. Each question reflected the goals of the research questions and hypothesis. The following is an abbreviated version of the survey questions.

Business Demographics

1. In what year was your firm first organized as a legal entity?

   YEAR (4 digits):_____ DON'T KNOW_____

2. How many people does your firm currently employ?

   _____ Full Time _____ Part Time

3. Which of the following now best describes this business – would you say it is a retail store, a restaurant tavern, bar, or nightclub, manufacturing, construction, agriculture, mining, wholesale distribution, transportation, utilities, communications, finance, insurance, real estate, some type of

business consulting or service, or something else? (What is the primary type of this business?)

___ Retail Store

___ Restaurant, Tavern, Bar, or Nightclub

___ Customer or Consumer Service

___ Health, Education, or Social Services

___ Manufacturing

___ Construction

___ Agriculture

___ Mining

___ Wholesale Distribution

___ Transportation

___ Utilities

___ Communications

___ Finance

___ Insurance

___ Real Estate

___ Business Consulting or Service

___ Something Else

4. How is your business currently organized? (please check one)

_____ Sole Proprietorship _____ Corporation

_____ Partnership _____ Limited Liability Corporation

_____S–Corporation _____Limited Liability Partnership

5. What is the current market for the products or services sold by your firm?

(please check one)

_____ Local _____ National

_____ Regional _____ International

Employment of Financing Techniques

Please rank each of the following sources of capital relative to how often you have employed these methods to help finance your business. (Ranking scale is as follows: 0 = I never employ this funding method to 5 = I always employ this funding method)

6 Buy Used Equipment Instead of New Equipment
7 Negotiate Best Payment Terms with Suppliers
8 Withhold Salary When Necessary
9 Deliberately Delay Payment to Suppliers
10 Speed up Invoicing

11 Borrow equipment
12 Use Interest on Over Due Customer Accounts
13 Hire Temporary Rather Than Permanent Personnel
14 Use Routines to Minimize Capital Invested
15 Coordinate Purchases with Other Businesses

16 Lease Equipment Instead of Buying
17 Obtain Payment in Advance from Customers
18 Cease Business with Customers Who Pay Late
19 Use Personal Credit Card for Business Expenses
20 Offer the Same Conditions of all Customers

21 Rely on Income from Outside Employment
22 Obtain Loans from Relative or Friends
23 Practice Barter Instead of Buying/Selling Goods
24 Offer Customers Discount for Cash Payment
25 Buy on Consignment from Suppliers

26 Deliberately Choose Customers Who Pay Quickly
27 Share Office Space with Others
28 Employ Relatives/Friends
29 Deliberately Delay Tax Payments
30 Run the Business Completely in the Home

31 Share Equipment with Other Businesses
32 Share Employees with Other Businesses
33 Raise Capital from a Factoring Company

Data Analysis

The use of software programs assisted with the process of data analysis. I used SPSS software for data analysis as described by a study completed by Syed, Ahmadani, Shaikh, and Shaikh (2012). I exported information collected through SurveyMonkey to the SPSS program. To study any potential correlation between the uses of bootstrapping techniques beyond the startup phase of the business lifecycle, number of employees, and business success measured by business age, data review began with univariate statistics. Univariate statistics included frequencies, mean, and standard deviation (Singh, 2011). Additional testing of results used a standard multiple linear regression (Pallant, 2010; Syed et al., 2012).

Presentation of the study results occurs with the use of data tables, written analysis, and explanation, consistent with the research questions, hypotheses, and theoretical framework. Applying collected data answers the research questions and proves or disproves the study hypotheses (Sousa et al., 2007). Data gathered relates to the pecking order theory of small business finance and the theory of enactment. Answering the research questions and addressing the outlined hypotheses determined if NH small

business entrepreneurs apply the pecking order theory for financing. Determining how entrepreneurs employed bootstrapping in their financial plans addresses enactment of the business environment (Lam, 2010).

Reliability and Validity

The application of several steps ensured that data gathered was reliable and that the results are valid. The section on reliability and validity outlines the steps taken to ensure that the study was valid and reliable.

Reliability

I used the survey tool for this study with permission from the researcher Dr. Howard Van Auken (see Appendix E), with one question used with permission from the University of Michigan Survey Research Center (see Appendix G). My discussions with the authors of each survey tool revealed that the reliability statistics was not available; however, use of the surveys demonstrated the reliability of the survey questions. The survey piloted and used by Van Auken (2005) was for the study of the *Differences in the usage of bootstrap financing among technology-based versus nontechnology-based firms*. The survey used by Van Auken (2005) incorporates 28 questions created and piloted by Winborg and Landstrom (2001). Researchers in the field use the University of Michigan PSED data survey questions, as well as the data collected from the surveys (Perry et al., 2011; Reynolds, 2011). Research participants across different countries, industries, and business types have answered the survey questions with similar results. All survey questions used for this study have a demonstrated record of producing reliable results, as is evident by the numerous instances of use and comparison of results.

To ensure the collection of reliable results for this study, the distribution of surveys was throughout the state of New Hampshire (NH) and not limited to a specific area. Due to the anonymity of the survey, the specific geographic location of businesses within the state of NH was unknown. Survey administration is through chamber of commerce organizations located throughout the state.

Validity

I used the survey questions with permission from the authors (see Appendix E and Appendix G). My discussions with the authors of each survey tool revealed that validity statistics were not available; however, use of the survey can demonstrate the validity of the survey questions. The survey questions have undergone pretesting and pilots by researchers through various studies (Fatoki, 2013; Perry et al., 2011; Van Auken, 2005). Past studies by researchers served as the basis for confirming the validity of the survey instrument (Fatoki, 2013; Perry et al., 2011; Reynolds, 2011; Van Auken, 2005; Winborg & Landstrom, 2001). The survey participants spanned multiple countries, industries, and languages yet produced similar results demonstrating survey validity. Using survey instruments tested by past researchers provided for a validated survey instrument.

I used a cross-sectional survey design for the study, meaning that results reflected the feedback of respondents at a specific moment in time (Rindfleisch et al., 2008; Sousa et al., 2007). Although the cross-sectional design is popular among empirical research studies, there is concern regarding the validity of the design (Rindfleisch et al., 2008). The concerns surround issues of common method variance and causal inference (Rindfleisch et al., 2008). The survey followed the guidelines suggested by Rindfleisch et

al. (2008) for mitigating the effects of common method variance and causal inference to ensure valid results. Rindfleish et al. (2008) suggested that using multiple respondents, multiple data sources, or multiple periods minimized common method variance and causal inference. This study used multiple respondents to minimize common method variance and causal inference.

Multiple areas threaten the validity of the current study. Internally, the selection process included small business owners who have the personal capital to start a business, use bootstrapping methods as the default, and have no need to consider outside funding sources. The ability to provide generalizable results for the population, or external validity, is a threat to quantitative studies as a whole (Leech et al., 2010). Such a threat suggested that external validity would also threaten the current study. External validity was a threat for several reasons. Data is valid for other entrepreneurs of small businesses within New England but may lose validity outside of the area. The differing geographic, demographic, and market conditions outside of the New England area contribute to external threats. NH business owners comprised the study sample. Compared to the number of small business owners domestically and internationally, findings may not be applicable to a larger, more diverse population (Aguinis, 2014). Regions with demographics similar to NH would have similar results, maintaining the validity of the current study. To negate any threats to external validity, further research with a more diverse population is necessary.

Transition and Summary

The objective of Section 2 was to identify the methodology of the study, outline

the data collection procedures, and describe the survey population. The information collected from using the predictive correlational quantitative research method with a survey design reduced the gaps in current literature on bootstrap techniques. The chosen population and survey methodology aligned with research conducted on the topic, allowing an easy comparison of results to build upon current research.

My reporting on the collected data regarding the use of bootstrap financing provides suggestions for social change. The quantitative study concludes with a report on the findings, results, and analysis of the collected data. The data as applied to professional practice suggests implications for the benefit of society and study uses, as well as recommendations for further study. Details of findings are in Section 3.

Section 3: Application to Professional Practice and Implications for Change

The numbers for small business longevity are startling, with less than half of all new small businesses making it to the fifth anniversary of being in business (USSBA, 2010a; Yang, 2012). With small business entrepreneurs playing a critical role in providing employment and creating new jobs, small business survival is essential to the economy (Baptista & Preto, 2011; Neumark et al., 2011; USSBA, 2010a). Attaining adequate capital plays a significant role in small business survival (Ebben & Johnson, 2006, 2011; Lussier & Halabi, 2010). Many entrepreneurs find that traditional financing means are not available, which leaves them to find alternative financing methods (Ebben & Johnson, 2006; Van Auken & Neeley, 1996). Studying alternative finance methods, known as bootstrap finance, increases the knowledge of entrepreneurs, allowing them to meet the challenges surrounding small business financing.

Section 3 provides an overview of the correlational quantitative study conducted to review the relationship between the continual use of bootstrap financing techniques as a stable funding strategy, firm size, and business success measured by business age. Section 3 includes a presentation of the findings of the study, how the findings apply to professional practice, and implications for social change. Reflections on the study as well as suggestions for action and further study have been included in Section 3.

Overview of Study

The purpose of the correlational quantitative study was to determine if a relationship exists among the continuous use of bootstrap financing techniques as a stable funding strategy, firm size, and business success as measured by business age. The

general business problem was that the U.S. small business sector makes up 99.9% of domestic businesses, employs 99.7% of the non government American workforce, and has a 6-year failure rate of 60% (Besser, 2012; Yang, 2012). The specific business problem was that entrepreneurs lack knowledge about the relationship between business success measured by business age, number of employees, and bootstrap financing. The study used SPSS software to measure univariate statistics consisting of frequencies, mean, and standard deviation, and to create a standard multiple linear regression to assess the significance of the independent variables of the business bootstrap financing reported score and number of employees in predicting the dependent variable of firm age. The study addressed the following research question:

Does the amount of bootstrapping financing, measured by a bootstrapping survey, and numbers of employees significantly predict firm age, measured in years?

Testing of the following null and alternative hypotheses used univariate statistics and a standard multiple linear regression analysis. The R^2 deviation from zero served as the basis to accept or reject the hypotheses.

H_o: The amount of bootstrapping financing, measured by a bootstrapping survey, and numbers of employees will not predict firm age, measured in years.

H_1: The amount of bootstrapping financing, measured by a bootstrapping survey, and numbers of employees will predict firm age, measured in years.

Findings indicate no correlation between the log of the firm age, number of employees, and overall bootstrapping use, with an R value of 0.168, an R^2 value of .028,

and an adjusted R^2 of .010. The regression equation is $y\hat{}=1.139+.000x_1+.002x_2$. The following section provides a detailed presentation of the findings.

Presentation of the Findings

The purpose of this quantitative correlational study was to determine if a statistically significant relationship existed among bootstrap finance techniques, number of employees, and firm age. The population consisted of small business entrepreneurs in New Hampshire who had a business in existence for a minimum of 5 years. I collected 139 surveys. Data screening and assumption testing resulted in 111 surveys usable for the analysis, resulting in an 85% usability rate.

Data Cleansing and Transformation

I conducted pre-data analysis to check for outliers and to test the assumptions of multicollinearity, normality, homoscedasticity, and independence of residuals. Six surveys were unusable due to the age of the firm being less than 5 years, and an additional nine surveys due to no age listed for the firm, or the respondent choosing "I don't know." An additional six surveys required elimination due to incomplete data submitted by the participant.

Outliers. I assessed multivariate outliers by examining the Mahalabonis distances. Elimination of two cases was necessary because the cases exceeded the allowable value of 13.82.

Multicollinearity. Multicollinearity was assessed by reviewing the correlation coefficient between the two predictor variables. A correlation coefficient of .18 indicated that there was no violation of this assumption. In addition, tolerance and VIF values, .997

and 1.003, respectively, indicated no violation of the assumptions. Finally, the Cook's distance was less than the value of 1, further indicating no violation of the assumptions.

Normality, linearity, homoscedasticity, and independence of residuals. A normal probability plot (P-P) of the regression standardized residuals (Figure 2) was part of the regression analysis. The initial investigation indicated a violation of the normality, linearity, homoscedasticity, and independence of residuals assumptions. In addition, the scatterplot of the residuals (Figure 3) further substantiated violation of the assumptions.

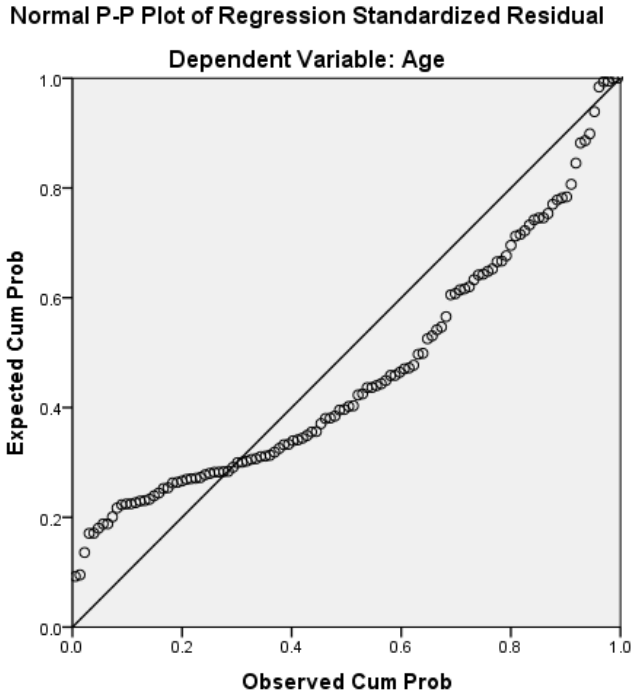

Figure 2. Normal probability plot (P-P) of the regression standardized residuals.

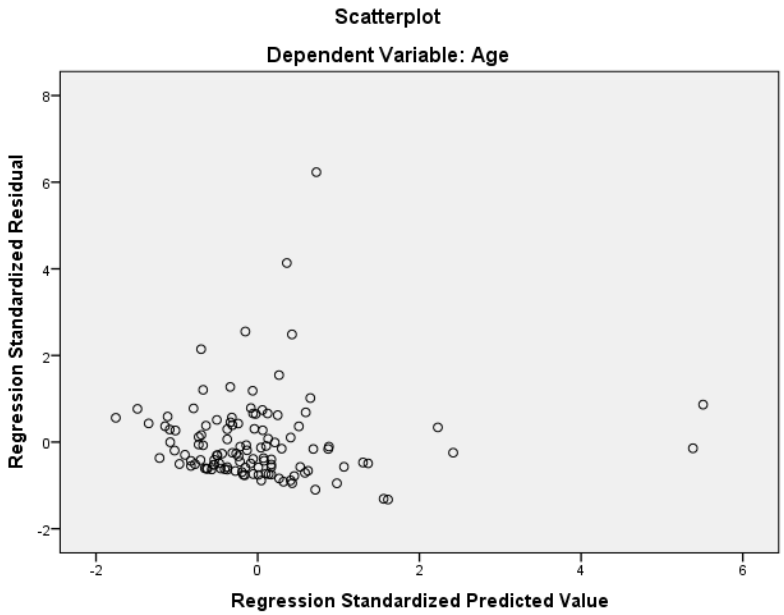

Figure 3. Scatterplot age.

A box plot (Figure 4) was created to assess univariate outliers in the dependent variable. Five cases were identified as outliers and removed from the analysis.

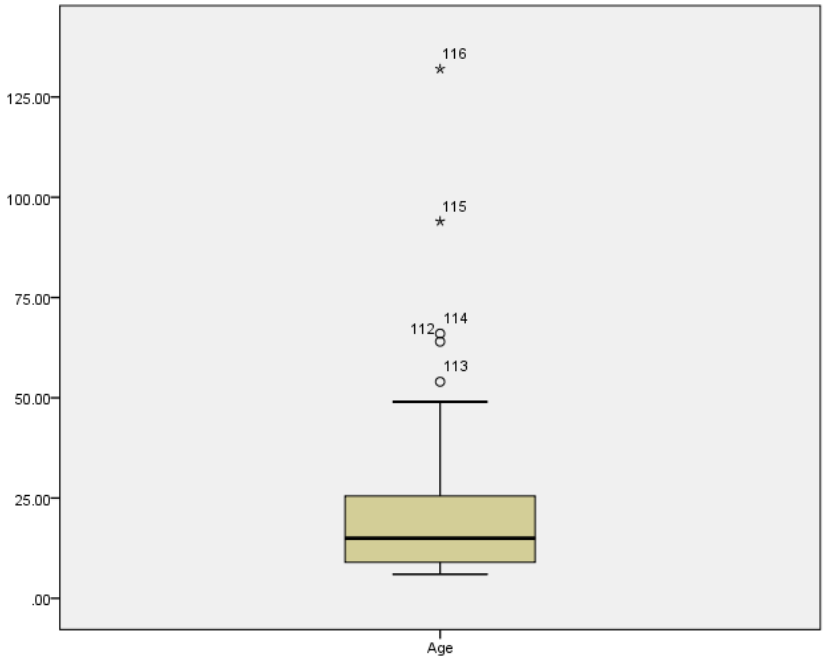

Figure 4. Boxplot for outliers.

Next, I conducted three transformations to determine the best data fit: (a) square root of age (Figure 5), log10 of age (Figure 6), and the inverse of age (Figure 7). The square root of age and the Log10 of age produced the best normality p-plots, whereas the normality p-plot for inverse of age showed a drastic curvature. Further testing of the independent variables of bootstrap score and total employees provided graphs of the square root of the bootstrap score (Figure 8), the Log10 of the bootstrap score (Figure 9), the square root of the total number of employees (Figure 10), and the Log10 of the total number of employees (Figure 11). Due to the ability of respondents to have an answer of zero for the bootstrap score and the total number of employees, conducting the inverse of the variables created an error in the testing.

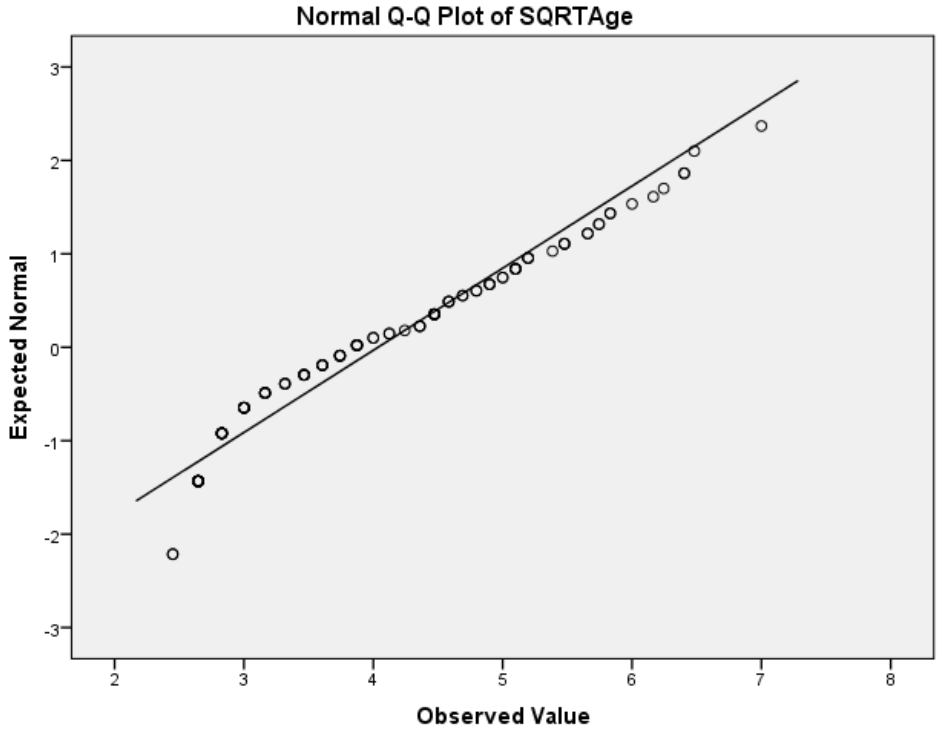

Figure 5. Normal p-p plot of regression standardized residual—square root age.

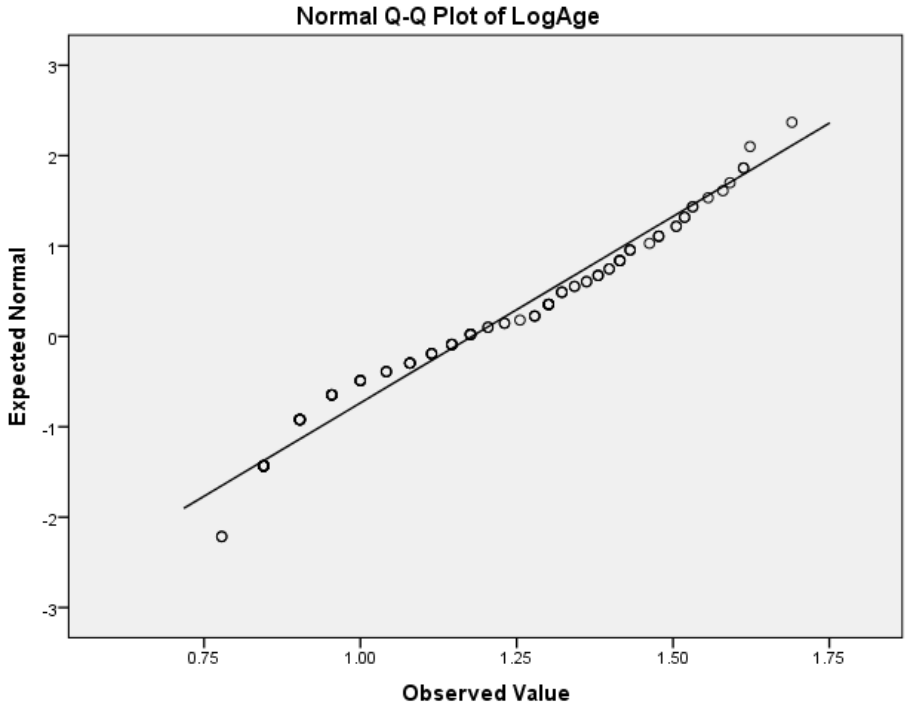

Figure 6. Normal p-p plot of regression standardized residual—log10 age.

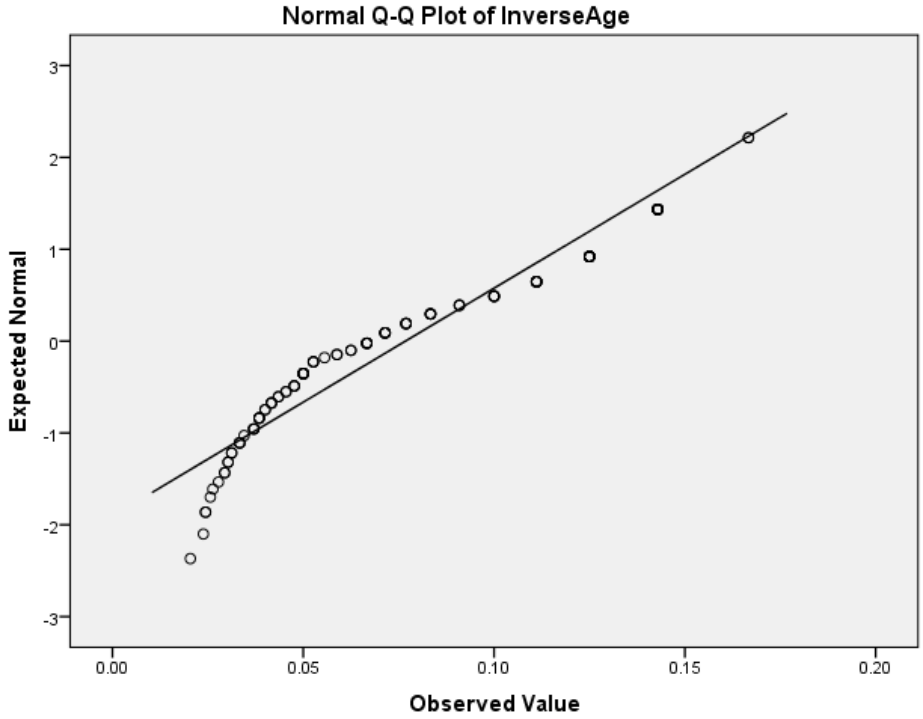

Figure 7. Normal p-p plot of regression standardized residual—inverse age.

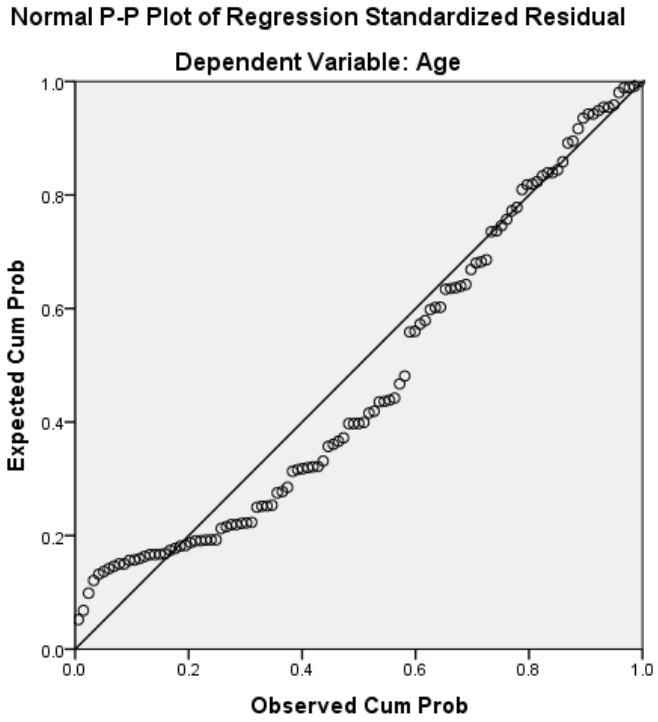

Figure 8. Normal p-p plot of regression standardized residual—square root bootstrap score.

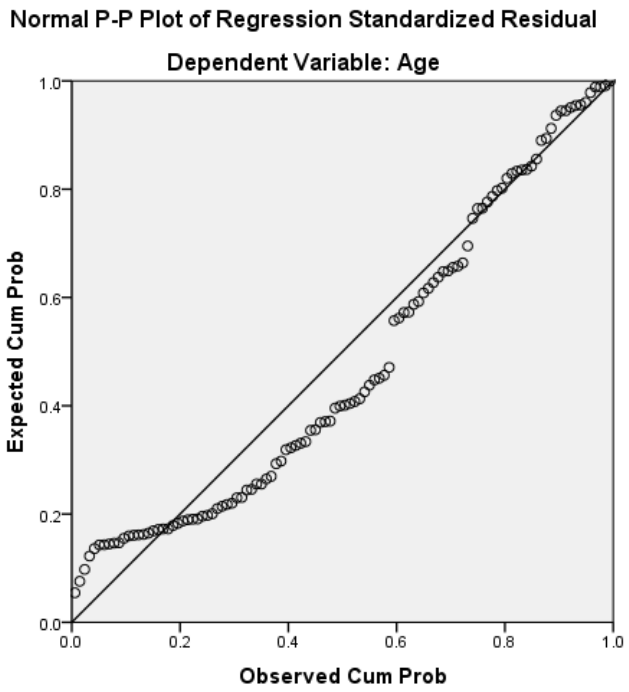

Figure 9. Normal p-p plot of regression standardized residual—log10 bootstrap score.

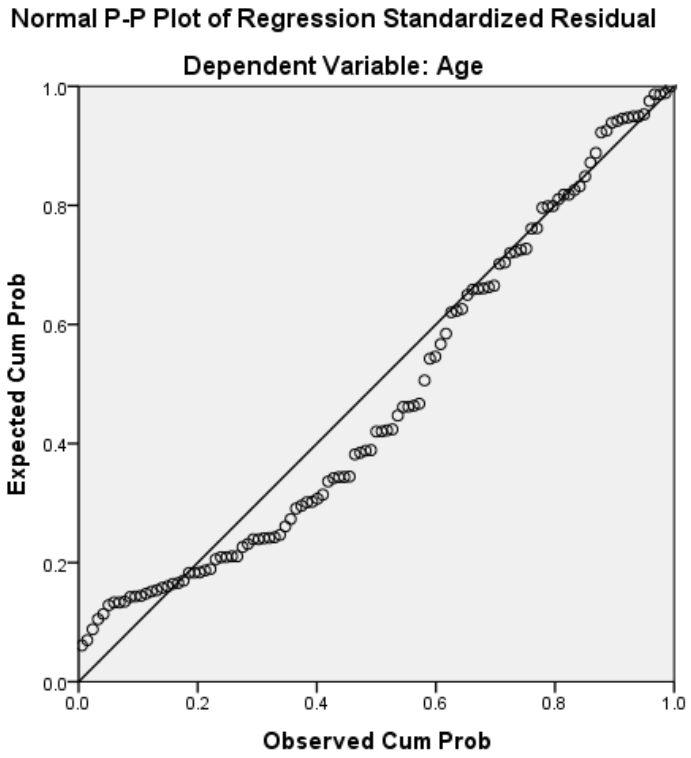

Figure 10. Normal p-p plot of regression standardized residual—square root total employees.

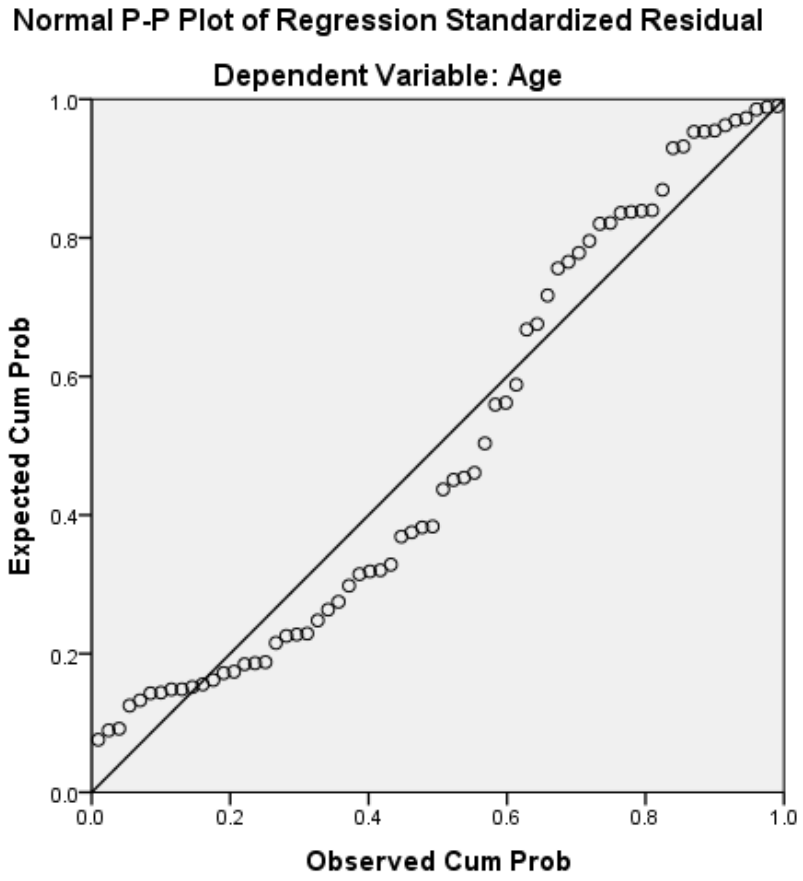

Figure 11. Normal p-p plot of regression standardized residual—log10 total employees.

I conducted variable transformations to determine the best model fit for the data. Transformations included the square root of age and the Log10 of age. The scatter plot for the square root of age had a positive skew, where the scatter plot for the Log10 of age revealed less of a skew (Figure 12 and Figure 13). Scatter plots for the square root and log10 of the variable bootstrap score both had a positive skew (Figure 14 and Figure 15). Scatter plots for the square root and log10 of the variable total employees had a positive skew (Figure 16 and Figure 17).

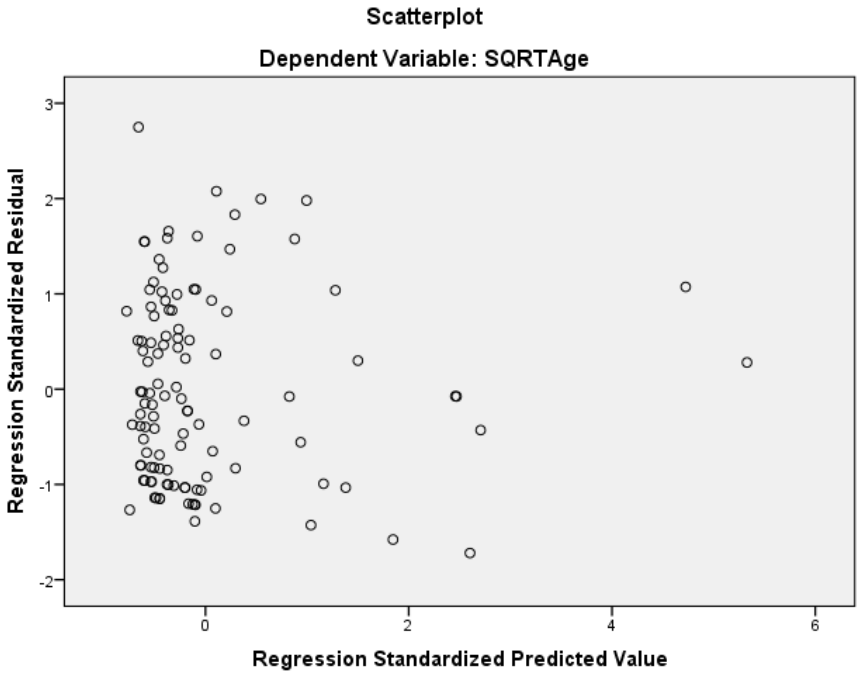

Figure 12. Scatterplot for square root of age.

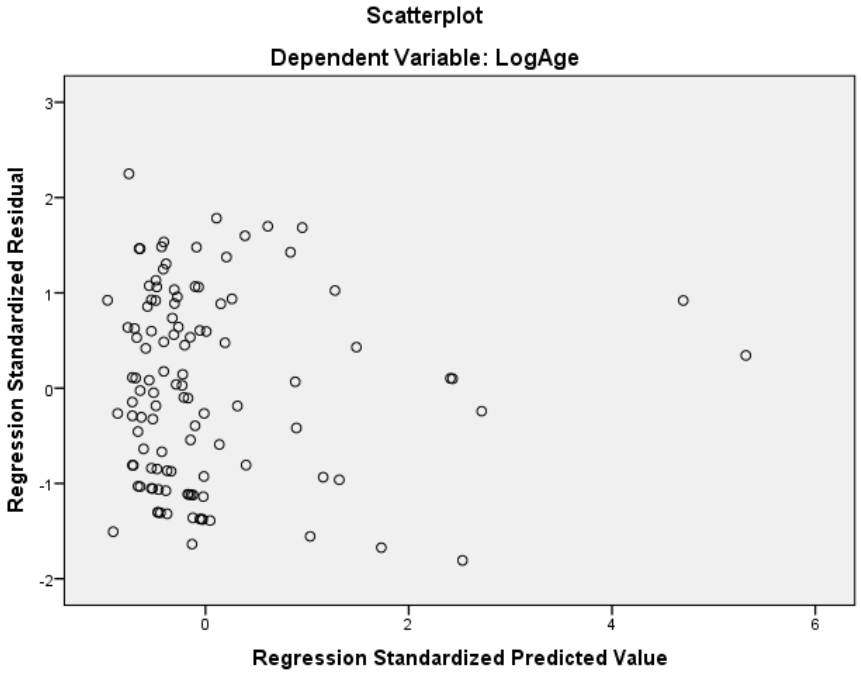

Figure 13. Scatterplot log10 of age.

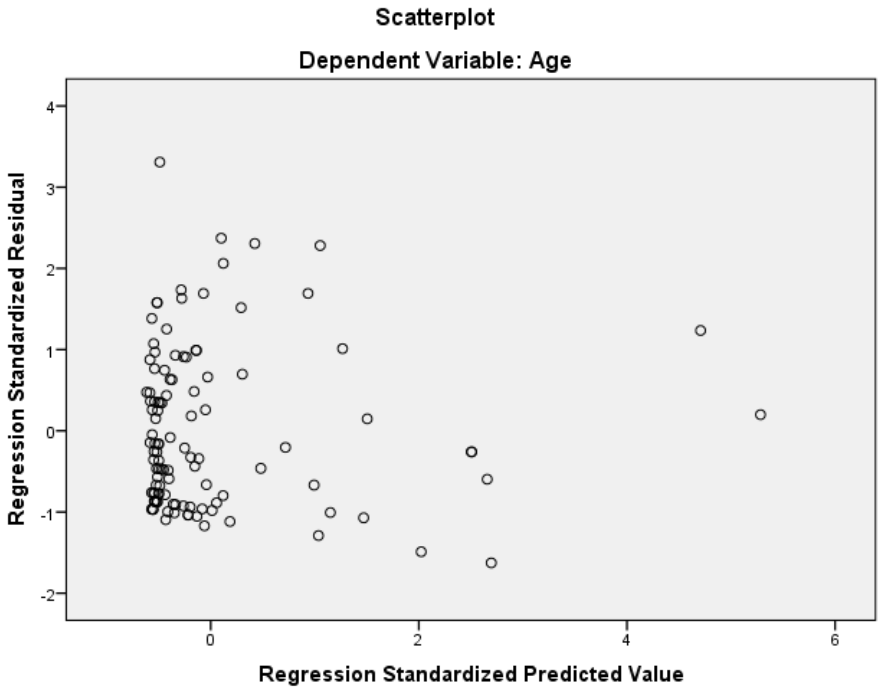

Figure 14. Scatterplot for square root of bootstrap score.

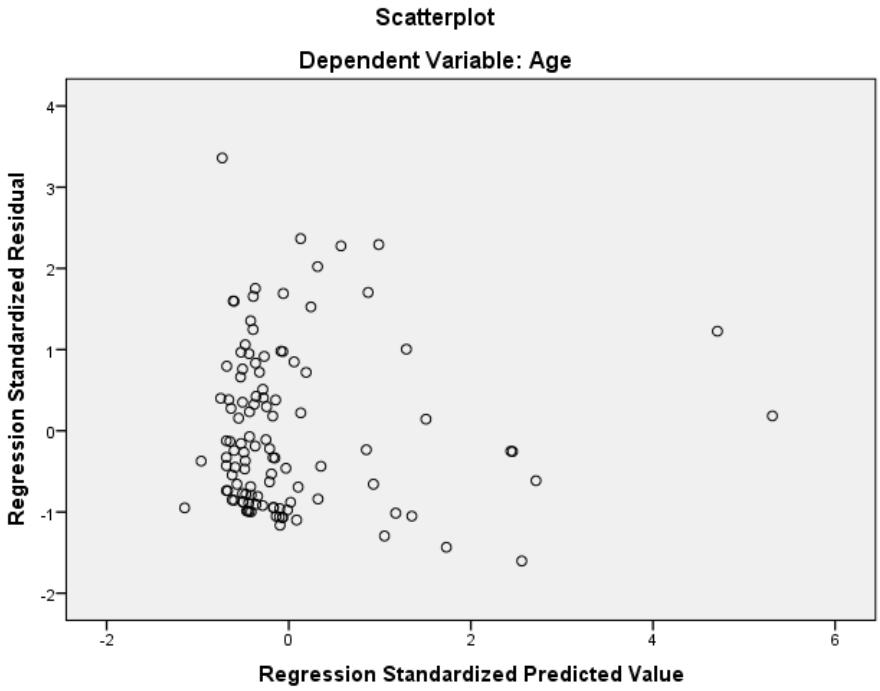

Figure 15. Scatterplot for log10 bootstrap score.

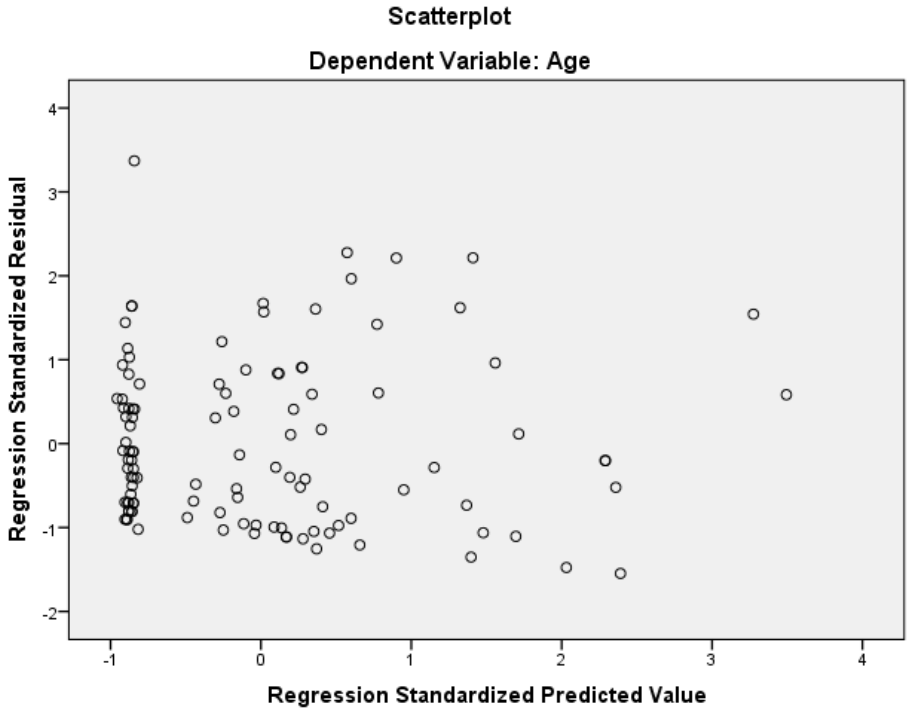

Figure 16. Scatterplot for square root of total employees.

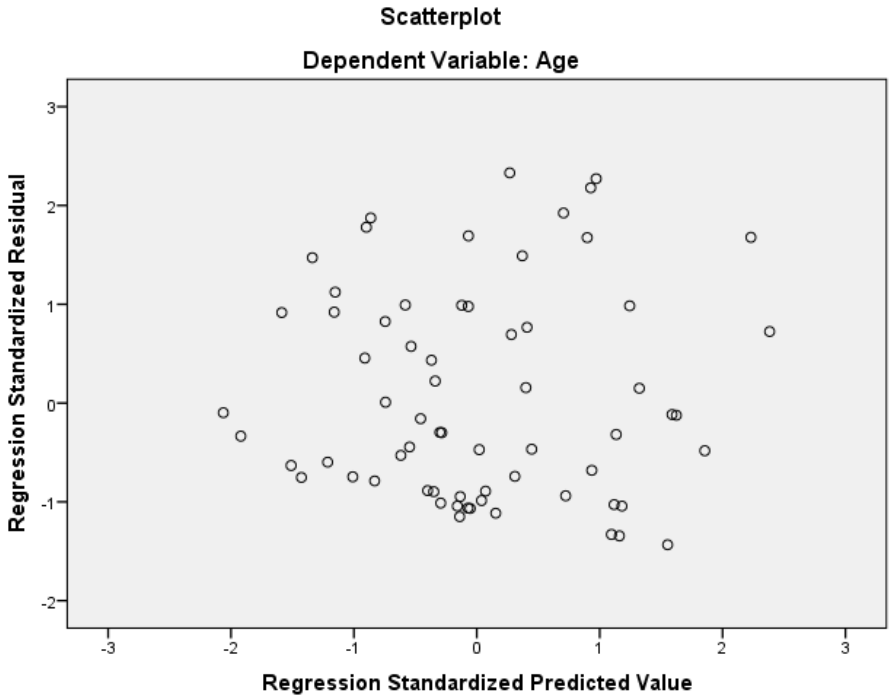

Figure 17. Scatterplot for log10 of total employees.

Testing variable transformations revealed that the use of the Log10 of the dependent variable age provided the best transformation that did not violate any of the assumptions. Although the scatter plot for the Log10 of the variable Total Employees provided the least skewed scatter plot, the normality test revealed violations of the assumptions. The multiple regression analysis used the variables of Log10 of age, bootstrap score, and total employees.

Descriptive Statistics

Analysis of business demographics determined firm age, industry, organizational classification, current market, and the number of employees. The average business age of small businesses belonging to the surveyed entrepreneurs was 17.7 years old, with an age minimum of 6 years and a maximum of 49 years of existence. Further discussion of descriptive statistics is in this section. Table 1 depicts the descriptive statistics for the study variables.

Table 1

Variable Descriptive Statistics ($N = 111$)

Variable	*M*	*SD*
Total employees	9.2	17.1
Bootstrap score	38.7	14.9
Firm age	17.7	9.9

The sample represents all industries except for mining, insurance, and wholesale distribution. The majority of businesses did not fit one of the outlined industries. Of the

identified industries, retail store, business consulting or service, and customer or consumer service were the top represented industries from the sample (see Table 2).

Table 2

Industry Classification of Businesses

Industry	Frequency	%
Retail store	15	13.5
Restaurant, tavern, bar, or nightclub	5	4.5
Customer or consumer service	12	10.8
Health, education, or social services	6	5.4
Manufacturing	10	9.0
Construction	8	7.2
Agriculture	2	1.8
Transportation	3	2.7
Utilities	1	0.9
Communications	1	0.9
Finance	3	2.7
Real estate	3	2.7
Business consulting or service	13	11.7
Something else	29	26.1
Total	111	100.0

The majority of surveyed businesses are Limited Liability Corporations, Corporations, or S-Corporations. The top three business structures accounted for 80.1% of all surveyed business owners. The least common business formations focused on partnerships or limited liability partnerships (see Table 3).

Table 3

Organizational Classification

	Classification	Frequency	%
Valid	Sole proprietorship	16	14.4
	Partnership	2	1.8
	Corporation	25	22.5
	Limited liability corporation	42	37.8
	S-Corporation	22	19.8
	Limited liability partnership	4	3.6
	Total	111	100.0

Evaluation of the current markets for products and services occurred with the use of the survey. Local and regional markets comprised the majority of surveyed businesses. The fewest firms serve international markets (see Table 4).

Table 4

Current Market

	Market	Frequency	%
Valid	Local	44	39.6
	Regional	37	33.3
	National	18	16.2
	International	12	10.8
	Total	111	100.0

The average number of full time employees per business was 8.16 employees. The average number of part time employees was less, at 5.34 employees. The mean of all employees, part time and full time, was 9.19 employees.

Employment of Financing Techniques

Calculation of descriptive statistics for the individual bootstrapping techniques occurred by multiplying the number of responses for each ranking by the ranking value. I calculated the average score for each technique. Offering the same conditions of all customers, negotiating the best payment terms with suppliers, and buying used equipment over new equipment had the highest average scores, meaning that these methods received the most frequent levels of use. The lowest scoring methods or least utilized, were raising capital from a factoring company, buying on consignment from suppliers, or deliberately delaying tax payments (see Table 4).

Table 4

Descriptive Statistics for Bootstrapping Methods

Technique	*M*	*SD*	Frequency of Response (0= Never employ, 5 = Always employ)					
			0	1	2	3	4	5
Deliberately delay payment to suppliers	1.16	1.34	50	25	14	12	10	0
Deliberately delay tax payments	0.61	1.18	79	14	7	6	3	2
Lease equipment instead of buying	1.24	1.45	53	17	15	14	11	1
Buy used equipment instead of new	2.42	1.52	17	17	17	29	24	7
Negotiate best payment terms with suppliers	3.10	1.72	13	13	9	22	23	31
Offer customers discounts for cash payment	0.83	1.25	65	21	12	8	2	3
Hire temporary rather than permanent personnel	1.64	1.67	42	18	15	21	4	11
Use routines to minimize capital invested	1.72	1.57	37	18	17	22	12	5
Cease business with customers who pay late	1.78	1.56	28	30	19	13	14	7
Deliberately choose customers who pay quickly	1.14	1.53	58	21	9	10	8	5
Obtain payment in advance from customers	2.16	1.71	24	23	19	15	16	14
Offer the same conditions of all customers	3.29	1.52	6	13	10	26	26	30
Raise capital from a factoring company	0.14	0.60	101	8	0	1	0	1
Speed up invoicing	1.93	1.85	39	17	12	13	16	14
Use interest on overdue customer accounts	3.29	1.52	6	13	10	26	26	30
Withhold salary when necessary	1.33	1.81	60	17	4	8	11	11
Employ relatives/friends	1.59	1.56	36	29	14	15	11	6
Obtain loans from relatives or friends	0.76	1.22	70	19	8	7	7	0
Run the business completely in the home	1.48	1.91	60	11	7	7	12	14
Rely on income from outside employment	1.41	1.90	61	14	6	4	12	14
Use personal credit card for business expenses	2.09	1.79	34	16	12	13	27	9
Borrow equipment	1.05	1.21	52	23	18	14	4	0
Coordinate purchases with other businesses	0.91	1.25	61	22	12	9	7	0
Practice barter instead of buying/selling goods	1.59	1.31	22	44	16	17	10	2
Buy on consignment from suppliers	0.49	1.01	81	18	5	3	3	1
Share office space with others	0.65	1.33	80	15	3	7	0	6
Share equipment with other businesses	0.63	1.18	75	22	2	6	4	2
Share employees with other businesses	0.68	1.15	72	18	11	6	2	2

I calculated an overall bootstrapping score for the collected surveys. The mean bootstrapping score is 38.68. The minimum bootstrapping score was zero, with a maximum score of 82. Based on the data, the majority of businesses use bootstrapping as a financing strategy at some level.

Inferential Results

I conducted a multiple linear regression to examine the hypothesis that firm size and bootstrap score significantly predict firm age. The independent variables were firm size and bootstrap score. The dependent variable was firm age. The results were nonsignificant, and the model as a whole does not significantly predict firm age, $F(2,108) = 1.56$, $p = .77$, $R^2 = .028$ which predicted 2.8% of the variance. Based on the findings I accept the null hypothesis with the alternative hypothesis rejected. Firm size and bootstrap scores do not significantly predict firm age (see Table 5).

Table 5

Standard Multiple Regression (N = 111)

Variable	*B*	*SE B*	*β*	*t*	*p*
Total Employees	0.020	0.001	.167	1.76	.08
Bootstrap Score	0.00	0.002	.028	.29	.77

Themes, Patterns, and Relationships

In reviewing the data, some themes, patterns, and relationships emerged. The frequency of bootstrap use is beneficial to review by comparing some level of usage to no usage at all (see Table 6).

Table 6

Percentage of Bootstrap Usage

Technique	% Use Method to Some Degree	% Never Use Method
Deliberately delay payment to suppliers	55%	45%
Deliberately delay tax payments	29%	71%
Lease equipment instead of buying	52%	48%
Buy used equipment instead of new	85%	15%
Negotiate best payment terms with suppliers	88%	12%
Offer customers discounts for cash payment	41%	59%
Hire temporary rather than permanent personnel	62%	38%
Use routines to minimize capital invested	67%	33%
Cease business with customers who pay late	75%	25%
Deliberately choose customers who pay quickly	48%	52%
Obtain payment in advance from customers	78%	22%
Offer the same conditions of all customers	95%	5%
Raise capital from a factoring company	9%	91%
Speed up invoicing	65%	35%
Use interest on overdue customer accounts	6%	95%
Withhold salary when necessary	46%	54%
Employ relatives/friends	68%	32%
Obtain loans from relatives or friends	37%	63%
Run the business completely in the home	46%	54%
Rely on income from outside employment	45%	55%
Use personal credit card for business expenses	69%	31%
Borrow equipment	53%	47%
Coordinate purchases with other businesses	45%	55%
Practice barter instead of buying/selling goods	80%	20%
Buy on consignment from suppliers	27%	73%
Share office space with others	28%	72%
Share equipment with other businesses	32%	68%
Share employees with other businesses	35%	65%

Relationship to Current Knowledge

This study follows the pecking order theory and the theory of enactment. The pecking order theory states that entrepreneurs prefer to use internal financing methods prior to finding external sources (Cassar, 2004; Cui et al., 2010). Daft and Weick (1984)

used the theory of enactment to explain that entrepreneurs can take an active stance in their environment, finding and acting upon opportunities rather than waiting for these opportunities to emerge (Case & Thatchenkery, 2010). From a financial perspective, Lam (2010) explained that entrepreneurs could scan the environment to create financial opportunities such as creating networks for purchasing supplies, sharing resources, or bartering. With the high degree of frequency reported for bootstrap methods, I conclude that entrepreneurs do prefer to use internal financing techniques, consistent with results found by Atherton (2012), Padachi et al. (2012), and Vasiliou et al. (2009). Based on the ideas outlined by Lam (2010), very few NH entrepreneurs are using the environment to take advantage of sharing resources, ordering supplies as a group, or bartering. However, further study is necessary to determine what other sources of external financing are used, as well as the motivation behind their use. With further study, it can be determined how entrepreneurs are enacting their environment.

Studies have found that firm size positively influences firm age (Fackler et al., 2013; Giovannetti et al., 2011). Fackler et al. (2013) and Giovannetti et al. (2011) found that smaller firms have difficulty competing in traditional markets, which decreases survival rates. The studies are inconsistent with the current study, as size did not affect the survival of the business for the surveyed entrepreneurs. Instead, this study supported Gibrat's Law that firm size and age are independent (Reid & Xu, 2012).

Data analysis did not reveal a relationship between firm age, bootstrapping, and the number of employees. These findings differ from what was expected based on the literature and studies on bootstrap use (Ebben & Johnson, 2006; Winborg & Landstrom,

2001). Multiple researchers have provided data that suggests that small business entrepreneurs continue to use bootstrapping as a survival tactic over the life of the business, suggesting the existence of a relationship between firm age, bootstrap use, and business size (Cassar, 2004; Ebben & Johnson, 2006). However, the current study did not significantly confirm the results of studies by Cassar (2004) or Ebben and Johnson (2006). The results of the current study instead agreed with results by Padachi et al. (2012) that found no significant correlation among business size, age, and financing decisions. Further analysis of individual bootstrapping categories and business age is necessary.

Applications to Professional Practice

With the minimal knowledge available on bootstrap financing techniques, entrepreneurs benefit from any addition to this knowledge base. Despite not finding a significant correlation to the log of the variable business age, bootstrap use, and the number of employees, use of bootstrap finance to some degree was evident in the results among the majority of businesses surveyed. The information provides evidence that small business entrepreneurs are using bootstrap finance techniques beyond the startup phase of the business. Use of bootstrap techniques by small business entrepreneurs did not correspond to business age, suggesting that the techniques cannot guarantee long-term success. Bootstrapping as a component of a strategic plan could be beneficial to the business, and further study is necessary to determine the benefit. Knowing that bootstrap finance is a commonly used financing technique opens the door for further research on

the topic, as well as increases awareness of the financing method throughout the small business community.

Implications for Social Change

Implications for social change include the potential to provide NH small business entrepreneurs with additional information for creating financial models. Having additional information and knowledge can aid entrepreneurs in making the best decisions they can in regards to financing alternatives. Making informed decisions can in turn aid business survival by contributing to new knowledge, employment, and training.

Recommendations for Action

The business community needs to recognize the use of bootstrap finance as a financial strategy. It is clear that entrepreneurs are using bootstrapping techniques, and there is a benefit and necessity to using the techniques, yet research on long-term impacts is minimal. Promoting debt and equity as methods for raising capital is not always the correct answer, nor the only answer. Expanding the knowledge of bootstrap techniques, as well as how to implement these techniques, will help small business entrepreneurs survive and succeed into the future. Giving bootstrap finance techniques formal recognition, suggestions for implementation, and support as a viable strategy will help to ease the financial burden that many small business entrepreneurs feel.

Expanding exposure of bootstrap techniques to small business owners will lend credibility to the strategies that many entrepreneurs already employ out of necessity. Being creative is a survival tool for many small business owners. Showing that other entrepreneurs use these methods, and showing that the techniques are acceptable business

practices, will build the confidence of entrepreneurs, increase their knowledge base, and provide a feeling of inclusiveness within the small business community.

Entrepreneurs can learn about information on bootstrap finance through multiple avenues. The Small Business Association and regional business development incubators can provide alternative methods of raising capital through bootstrap finance techniques instead of focusing primarily on debt or equity methods. Providing information to entrepreneurs regarding the methods of bootstrap finance, and how to implement the methods, will open their minds to financial alternatives. Upon request, entrepreneurs will receive information from this study, which will increase their knowledge base.

Recommendations for Further Study

I suggest several areas for further study. The first area is determining if there is a correlation between certain types of individual bootstrap finance techniques to business age. The second would be to find the motivation behind the techniques used by entrepreneurs. In addition to these two areas, understanding more specifically why NH entrepreneurs have decided to continuously use some level of bootstrap finance, instead of straying away as past studies suggest (Bhaird, 2010; Cassar, 2004; Osei-Assibey et al., 2012; Servon et al., 2010; Vasiliou et al., 2009), would provide more insight to entrepreneurial financing decisions. Widening the demographics of the study would provide a more thorough investigation that could apply to areas beyond New England.

Understanding the motivation behind financing decisions of entrepreneurs who have been in business for a minimum of 5 years would provide additional insight. Based on the study results, the majority of small business entrepreneurs in NH are using some

degree of bootstrap finance in their business activities. However, the study did not find a significant relationship among the age of the firm, bootstrap techniques, and the number of employees. The question remains of why the surveyed entrepreneurs are continuing to use bootstrap financing beyond the startup phase. Knowing if entrepreneurs are using the techniques out of a financial need, as a general best business practice, as a conscious choice, or out of habit would provide insight to the motivation behind financial choices and provide grounds for further study of potential relationships. Similarly, understanding the motivation behind not using specific bootstrap methods or using no methods at all would be helpful to entrepreneurs as a whole.

Past studies have shown that entrepreneurs tend to stray away from incorporating bootstrap finance techniques (Bhaird, 2010; Cassar, 2004; Osei-Assibey et al., 2012). Therefore, it would be beneficial to understand why NH entrepreneurs have continued to incorporate some level of bootstrap financing. Comparing the types of techniques used with the age of the business would help determine if entrepreneurs of younger businesses use the same techniques as entrepreneurs of more mature businesses. Further comparison of bootstrap techniques would help to identify good business financing practices for small business survival.

This study was limited to New Hampshire small business owners. Surveying a wider location of entrepreneurs would allow the study results to be applicable to areas beyond New England. Further classifying the demographics of small business may provide data on how varying sizes of small businesses utilize bootstrap techniques.

Reflections

This study required the surveying of small business owners. Due to time restrictions of this population, I anticipated it might be difficult to collect the required sample size of respondents needed to proceed, especially since e-mails went out between the Thanksgiving and Christmas holidays. I was surprised by the openness and quickness of this population to respond, as well as the feedback on the survey itself, and well wishes for success. As a result, I have made a few connections with other doctoral students in NH. Sharing our journey and experiences, although at different institutions, has been eye opening and validating. I am thankful for this new group.

By surveying small business owners regarding bootstrap finance techniques and disseminating the results to those who have requested to view them, I can spread information regarding bootstrap finance. An e-mail response from one respondent in particular indicated it was nice to have a name put to what it is that they are doing for their business. I feel that I am helping the small business community by spreading information on alternative financial opportunities.

Summary and Study Conclusions

The purpose of this study was to determine if a correlation exists among business success as measured by business age, bootstrap financing, and the number of employees. E-mailed surveys went to 1,655 potential participants, resulting in 111 usable surveys and an 8% response rate. Data was analyzed using SPSS statistical software. With a multiple regression analysis, it was determined that bootstrap finance use and the number of employees did not significantly predict the age of the firm. Studying the computed

bootstrap score revealed that NH entrepreneurs with businesses that have been in existence for a minimum of five years use some degree of bootstrap finance in their business strategy. Further analysis regarding the correlation of business success as measured by business age, specific types of bootstrapping methods, and the number of employees may provide further insight to small business finance.

Small business entrepreneurs will benefit from this study through the additional data added to the topic of bootstrap finance. Small business entrepreneurs continue to use bootstrap finance as a financing technique to ensure the financial survival of their businesses. Adding to the financial knowledge available will help entrepreneurs to make informed financial decisions.

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Appendix A: Survey 1 Received From Dr. H. Van Auken

ACQUISITION OF CAPITAL

Background Information

1. _____ In what year was your firm first organized as a legal entity?

2. What is the primary activity of your business? (please check one)

_____ Products _____ Wholesale

_____ Services _____ Other

3. How is your business currently organized? (please check one)

_____ Sole Proprietorship _____ Corporation

_____ Partnership _____ Limited Liability Corporation

_____S–Corporation

4. How many people does your firm currently employ?

_____ Full Time _____ Part Time

5. Approximately how much capital from all sources has your company raised? (please check one)

_____ < $100,000 _____ $1,000,001 - $5,000,000

_____ $100,001 - $500,000 _____ > $5,000,000

_____ $500,001 - $1,000,000

6. What is the current market for the products/services sold by the firm? (please check one)

_____ Local _____ National

_____ Regional _____ International

7. Please indicate the degree to which the objectives of the firm are most consistent with "life style" preferences or "high growth" preferences. Life style refers to a company strategy emphasizing low sales growth that is primarily funded by operations. High growth refers to a strategy emphasizing very rapid sales growth that is funded from external capital. (1=strong preference for life style and 5=strong preference for high growth strategy)

1 2 3 4 5

8. If raising capital were easier, would you be more likely to pursue a higher growth strategy? (1=very likely and 5 = not likely)

1 2 3 4 5

Use of Alternative Financing Techniques

Please rank each of the following sources of capital relative to how often you use them to help finance your business. (0 = never use and 5 = frequently use)

9	Buy Used Equipment Instead of New Equipment	0	1	2	3	4	5
10	Negotiate Best Payment Terms with Suppliers	0	1	2	3	4	5
11	Withhold Salary When Necessary	0	1	2	3	4	5
12	Deliberately Delay Payment to Suppliers	0	1	2	3	4	5
13	Speed up Invoicing	0	1	2	3	4	5
		0	1	2	3	4	5
14	Borrow equipment	0	1	2	3	4	5
15	Use Interest on Over Due Customer Accounts	0	1	2	3	4	5
16	Hire Temporary Rather Than Permanent Personnel	0	1	2	3	4	5
17	Use Routines to Minimize Capital Invested	0	1	2	3	4	5
18	Coordinate Purchases with Other Businesses	0	1	2	3	4	5
		0	1	2	3	4	5
19	Lease Equipment Instead of Buying	0	1	2	3	4	5
20	Obtain Payment in Advance from Customers	0	1	2	3	4	5
21	Cease Business with Customers Who Pay Late	0	1	2	3	4	5

22	Use Personal Credit Card for Business Expenses	0	1	2	3	4	5
23	Offer the Same Conditions of all Customers	0	1	2	3	4	5
		0	1	2	3	4	5
24	Rely on Income from Outside Employment	0	1	2	3	4	5
25	Obtain Loans from Relative or Friends	0	1	2	3	4	5
26	Practice Barter Instead of Buying/Selling Goods	0	1	2	3	4	5
27	Offer Customers Discount for Cash Payment	0	1	2	3	4	5
28	Buy on Consignment from Suppliers	0	1	2	3	4	5
		0	1	2	3	4	5
29	Deliberately Choose Customer Who Pay Quickly	0	1	2	3	4	5
30	Share Office Space with Others	0	1	2	3	4	5
31	Employ Relatives/Friends	0	1	2	3	4	5
32	Deliberately Delay Tax Payments	0	1	2	3	4	5
33	Run the Business Completely in the Home	0	1	2	3	4	5
		0	1	2	3	4	5
34	Share Equipment with Other Businesses	0	1	2	3	4	5
35	Share Employees with Other Businesses	0	1	2	3	4	5
36	Raise Capital from a Factoring Company	0	1	2	3	4	5

Acquisition of Capital

37. Please rate the difficulty that you have experienced in raising capital.

(1 = very difficult and 5 = not difficult)

1 2 3 4 5

38. To what extent do you believe that your company is undercapitalized?

(1 = very undercapitalized and 5 = not undercapitalized)

1 2 3 4 5

39. To what extent are you are able to determine the financial needs of your firm?

(1 = very capable and 5 = not capable)

1 2 3 4 5

40. How capable are you to be a strong a advocate for raising capital?

(1 = strong advocates and 5 = weak advocates)

1 2 3 4 5

41. _____ Approximately how many contacts did you make during the past year for the purpose of raising capital?

42. _____ Approximately how many hours per month during the past year would you estimate that you have devoted to raising capital?

43. Would you like to make any comments about your company's experience attracting capital?

44. Would you like a copy of the results?

_____ Yes _____ No

Appendix B: Survey 2 University of Michigan Survey Research Center

Wave F Questionnaire from the Panel Study of Entrepreneurial Dynamics

Retrieved from http://www.psed.isr.umich.edu/psed/data

A21 (B1). 3. Which of the following now best describes this business – would you say it is a retail store, a restaurant tavern, bar, or nightclub, manufacturing, construction, agriculture, mining, wholesale distribution, transportation, utilities, communications, finance, insurance, real estate, some type of business consulting or service, or something else? (What is the primary type of this business?)

_____ Retail Store

_____ Restaurant, Tavern, Bar, or Nightclub

_____ Customer or Consumer Service

_____ Health, Education, or Social Services

_____ Manufacturing

_____ Construction

_____ Agriculture

_____ Mining

_____ Wholesale Distribution

_____ Transportation

_____ Utilities

_____ Communications

_____ Finance

_____ Insurance

_____ Real Estate

_____ Business Consulting or Service

_____ Something Else

Appendix C: Relationship Between Bootstrap Financing, Number of Employees, and Small Business Survival

Small business owners often have difficulties getting money to fund their business, especially when opening a new business. Banks will not approve requested loans, and other sources of raising money are not realistic. When this happens, owners must find other methods for getting the money needed. Owners get creative, finding alternative ways to meet the needs of the business. Called *bootstrap financing*, these creative funding methods can help an owner's business survive until income is high enough for an owner to cover business expenses.

The purpose of this survey is to determine if bootstrap finance plays a role in small business finance, and contributes to long term business survival. Completion of this survey should take 5-10 minutes. Thank you for your time and commitment to aiding small business research.

Please answer all questions listed below as the questions relate to your past and current business history.

Business Demographics

1. In what year was your firm first organized as a legal entity?

   YEAR (4 digits):_____ DON'T KNOW_____

2. How many people does your firm currently employ?

   _____ Full Time _____ Part Time

3. Which of the following now best describes this business – would you say it is a retail store, a restaurant tavern, bar, or nightclub, manufacturing, construction,

agriculture, mining, wholesale distribution, transportation, utilities, communications, finance, insurance, real estate, some type of business consulting or service, or something else? (What is the primary type of this business?)

_____ Retail Store

_____ Restaurant, Tavern, Bar, or Nightclub

_____ Customer or Consumer Service

_____ Health, Education, or Social Services

_____ Manufacturing

_____ Construction

_____ Agriculture

_____ Mining

_____ Wholesale Distribution

_____ Transportation

_____ Utilities

_____ Communications

_____ Finance

_____ Insurance

_____ Real Estate

_____ Business Consulting or Service

_____ Something Else

4. How is your business currently organized? (please check one)

_____ Sole Proprietorship _____ Corporation

_____ Partnership _____ Limited Liability Corporation

_____S–Corporation _____Limited Liability Partnership

5. What is the current market for the products or services sold by your firm? (please check one)

_____ Local _____ National

_____ Regional _____ International

Employment of Financing Techniques

Please rank each of the following sources of capital relative to how often you have employed these methods to help finance your business. (Ranking scale is as follows: 0 = I never employ this funding method to 5 = I always employ this funding method)

6	Buy Used Equipment Instead of New Equipment	0	1	2	3	4	5
7	Negotiate Best Payment Terms with Suppliers	0	1	2	3	4	5
8	Withhold Salary When Necessary	0	1	2	3	4	5
9	Deliberately Delay Payment to Suppliers	0	1	2	3	4	5
10	Speed up Invoicing	0	1	2	3	4	5
		0	1	2	3	4	5
11	Borrow equipment	0	1	2	3	4	5
12	Use Interest on Over Due Customer Accounts	0	1	2	3	4	5
13	Hire Temporary Rather Than Permanent Personnel	0	1	2	3	4	5
14	Use Routines to Minimize Capital Invested	0	1	2	3	4	5
15	Coordinate Purchases with Other Businesses	0	1	2	3	4	5
		0	1	2	3	4	5
16	Lease Equipment Instead of Buying	0	1	2	3	4	5
17	Obtain Payment in Advance from Customers	0	1	2	3	4	5
18	Cease Business with Customers Who Pay Late	0	1	2	3	4	5
19	Use Personal Credit Card for Business Expenses	0	1	2	3	4	5
20	Offer the Same Conditions of all Customers	0	1	2	3	4	5
		0	1	2	3	4	5
21	Rely on Income from Outside Employment	0	1	2	3	4	5
22	Obtain Loans from Relative or Friends	0	1	2	3	4	5
23	Practice Barter Instead of Buying/Selling Goods	0	1	2	3	4	5
24	Offer Customers Discount for Cash Payment	0	1	2	3	4	5

25	Buy on Consignment from Suppliers	0	1	2	3	4	5
		0	1	2	3	4	5
26	Deliberately Choose Customers Who Pay Quickly	0	1	2	3	4	5
27	Share Office Space with Others	0	1	2	3	4	5
28	Employ Relatives/Friends	0	1	2	3	4	5
29	Deliberately Delay Tax Payments	0	1	2	3	4	5
30	Run the Business Completely in the Home	0	1	2	3	4	5
		0	1	2	3	4	5
31	Share Equipment with Other Businesses	0	1	2	3	4	5
32	Share Employees with Other Businesses	0	1	2	3	4	5
33	Raise Capital from a Factoring Company	0	1	2	3	4	5

Thank you for taking the time to complete this survey. If you would like to receive an electronic copy of the results of the current study, please send an e-mail to BootstrapStudyNH@gmail.com. Please note that by sending a separate e-mail, your participation in the survey will not be linked to this request.

Appendix D: Methods of Bootstrapping

Methodology	Resource
Use of Owner/Manager Credit Card	(Jones & Jayawarna, 2010; Neeley & Van Auken, 2009; Perry et al., 2011; Reynolds, 2011; Van Auken, 2005; Van Auken & Neeley, 1996; Winborg & Landstrom, 2001)
Loans from friends/relatives/social networks	(Jones & Jayawarna, 2010; Lam, 2010; Neeley & Van Auken, 2009; Perry et al., 2011; Reynolds, 2011; Winborg & Landstrom, 2001)
Owner/Manager draw withheld	(Neeley & Van Auken, 2009; Perry et al., 2011; Winborg & Landstrom, 2001)
Owner/Manager works for another business (cross-subsidize)	(Jones & Jayawarna, 2010; Lam, 2010; Neeley & Van Auken, 2009; Perry et al., 2011; Winborg & Landstrom, 2001)
Friends/relatives work for lower than market salaries	(Lam, 2010; Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Discontinue business with late accounts	(Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Implement methods for faster invoicing	(Jones & Jayawarna, 2010; Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Apply interest to delinquent customer accounts	(Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Same terms offered to all customers	(Winborg & Landstrom, 2001)
Own/share/borrow equipment with/from other businesses	(Jones & Jayawarna, 2010; Neeley & Van Auken, 2009; Smith, 2009; Van Auken, 2005; Winborg & Landstrom, 2001)
Coordinate purchases/orders with other organizations	(Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Barter for goods/services instead of selling/buying	(Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Lease instead of buy equipment	(Neeley & Van Auken, 2009; Van Auken, 2005; Van Auken & Neeley, 1996; Winborg & Landstrom, 2001)
Delay payments to suppliers	(Neeley & Van Auken, 2009; Perry et al., 2011; Smith, 2009; Winborg & Landstrom, 2001)
Delay payments of value added tax	(Van Auken, 2005; Winborg & Landstrom, 2001)
Implement methods for reducing stock	(Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Negotiate conditions with suppliers, including credit and financing	(Lam, 2010; Van Auken & Neeley, 1996; Winborg & Landstrom, 2001)

Methodology	Resource
Receive subsidy/grant from federal/state organizations	(Neeley & Van Auken, 2009; Van Auken & Neeley, 1996; Winborg & Landstrom, 2001)
Offer discounts for cash payments	(Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Receive capital from stakeholder organizations	(Winborg & Landstrom, 2001)
Select customers based on ability to pay quickly	(Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Methodology	Resource
Share facilities with other organizations	(Jones & Jayawarna, 2010; Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Share employees with other organizations	(Jones & Jayawarna, 2010; Neeley & Van Auken, 2009; Winborg & Landstrom, 2001)
Owner/Manager sale of personal assets including investments	(Van Auken & Neeley, 1996)
Owner/Manager use personal funds including savings, inheritance, life insurance, and home equity	(Lam, 2010; Perry et al., 2011; Reynolds, 2011; Servon et al., 2010; Van Auken & Neeley, 1996)
Require advanced/down payment terms	(Jones & Jayawarna, 2010; Neeley & Van Auken, 2009)
Gain knowledge, support, and skills from friends/relatives	(Jones & Jayawarna, 2010)
Run business at home	(Lam, 2010; Neeley & Van Auken, 2009)
Purchase used/second hand machinery/equipment	(Lam, 2010; Neeley & Van Auken, 2009; Perry et al., 2011)
Hire temporary employees	(Neeley & Van Auken, 2009)
Methodology	Resource
Charge customers for product development expenses	(Neeley & Van Auken, 2009)
Share employees with other organizations	(Neeley & Van Auken, 2009)
Delay payroll	(Neeley & Van Auken, 2009)
Spouse works at another firm to bring funds to the business	(Lam, 2010)
Trade Credit	(Ayyagari et al., 2010; Bosse & Arnold, 2010; Gill et al., 2012)

Appendix E: Consent Form

PARTICIPATION IN RESEARCH STUDY

This is an invitation to participate in a research study of the Relationship Between Bootstrap Financing, Number of Employees and Small Business Survival. The purpose of the study is to review the creative funding methods used by small business owners and how these methods relate to long-term business survival. You have received a request to participate because of your status as a small business owner within the state of New Hampshire. The consent form is part of the process of "informed consent" to allow you to understand this study before deciding whether to take part.

A researcher named Robin Schofield, who is a doctoral student at Walden University, is conducting this study. The researcher will analyze gathered information to determine if a relationship exists between bootstrap financing, firm size, and business survival.

BACKGROUND INFORMATION

The purpose of this survey is to determine the role of bootstrap finance in long-term business survival. Bootstrap finance is a method of financing a business without the use of debt or equity financing. Many owners use bootstrap finance methods, such as borrowing equipment or maintaining a job outside of the business, out of necessity.

PROCEDURES

If you agree to participate in the study, you are agreeing to:

- Volunteer 5-10 minutes of your time
- Complete the survey one time

- Answer a multiple choice and Likert-type scale survey consisting of 33 questions

Here are some sample questions:

How is your business currently organized? (please check one)

_____ Sole Proprietorship _____ Corporation

_____ Partnership _____ Limited Liability Corporation

_____S–Corporation _____Limited Liability Partnership

Please rank each of the following sources of capital relative to how often you have employed these methods to help finance your business. (Ranking scale is as follows: 0 = I never employ this funding method to 5 = I always employ this funding method)

Buy Used Equipment Instead of New Equipment	0	1	2	3	4	5
Negotiate Best Payment Terms with Suppliers	0	1	2	3	4	5
Withhold Salary When Necessary	0	1	2	3	4	5
Deliberately Delay Payment to Suppliers	0	1	2	3	4	5
Speed up Invoicing	0	1	2	3	4	5

VOLUNTARY NATURE OF THE STUDY

Participation in the study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. You have the option to withdraw your participation at any time during the survey process. Participation requires a one-time commitment of 5-10 minutes, the maximum estimated time to complete the survey. The researcher will have no way of knowing if you participate in the study, nor if you withdraw your participation during the survey process. If you choose to volunteer and participate in the survey, please print and keep a copy of the consent form for your

records.

RISKS AND BENEFITS OF PARTICIPATING IN THE STUDY

The study does not pose any foreseeable risk to you as a participant beyond what is normally encountered in daily life. Being in this study will not pose risk to your safety or wellbeing. Neither the researcher nor Walden University has a financial interest in collected data. This survey is completely confidential; none of the data gathered will link you to your survey responses.

The benefit of your participation will be to increase information available to small business owners. Adding information for small business financing decisions will aid small business owners by providing data that could help the success of the small business. Small business survival is essential to the economy, increasing employment, and in promoting innovation.

PAYMENT

There will be no compensation, payment, or gift provided for participation. If you would like to view a copy of the results of the study, please send a separate e-mail to BootstrapStudyNH@gmail.com. You do not need to participate in the survey to receive a copy of the results, nor will there be a charge to receive these results. By sending a separate request for a copy of the results, you cannot be linked to your participation.

PRIVACY

Any information provided will be anonymous and confidential. The researcher and Walden University will preserve the legal rights of all participants. The researcher will not use your personal information for any purposes outside of this research project.

Also, the researcher will not include y our name or anything else that could identify you in the study reports. Gathered data is confidentially stored, on a secure computer system or in a locked file cabinet. Data will be kept for a period of at least 5 years, as required by Walden University. Shredding and deletion of raw data will occur after the retention period expires.

QUESTIONS AND CONTACT INFORMATION

Should you have any questions regarding the survey, Statement of Consent, your rights, or other questions, please contact the researcher, Robin Schofield, at Robin.schofield@waldenu.edu or (603) 731-8587. If you want to speak privately about your rights as a participant, please contact Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is (612) 312-1210. Walden University's approval number for this study is _____ and it expires on _____. Please keep this consent form.

STATEMENT OF CONSENT

I have read the above information, understand the study, and can make an informed decision about my involvement. I understand that no identifying information is collected and my identity will remain private. By agreeing to the terms and completing this survey, I am implying my consent to voluntarily participate in the research process and confirm that I am at least 18 years of age.

Appendix F: Consent for Use of Survey Tool: Howard Van Auken

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

College of Business
Department of Management
Steve and Becky Smith
Management and Marketing Suite
2350 Gerdin Business Building
Ames, Iowa 50011-1350
515 294-8110
FAX 515 294-7112

May 3, 2013

Robin M. Schofield
42 Gardners Grove Road
Belmont, NH 03220

Dear Robin:

I have received your request to use my survey tool from the study on *Differences in the usage of bootstrap financing among technology-based versus nontechnology based firms* for your doctoral study for the Doctor of Business Administration program with Walden University. I am granting you permission to use the survey tool, which I have previously provided to you via email.

Sincerely,

Howard Van Auken

Howard Van Auken, PhD
University Professor
Bob & Kay Smith Entrepreneurship Fellow
Justin Lockenecker USASBE Fellow

Appendix G: Consent for Use of Survey Tool—University of Michigan Survey Research Center

As quoted by the University of Michigan Survey Research Center website, http://www.psed.isr.umich.edu/psed/home:

> The Panel Study of Entrepreneurial Dynamics (PSED) research program is designed to enhance the scientific understanding of how people start businesses. The projects provide valid and reliable data on the process of business formation based on nationally-representative samples of nascent entrepreneurs, those active in business creation. PSED I began with screening in 1998-2000 to select a cohort of 830 with three follow-up interviews. A control group of those not involved in firm creation is available for comparisons. PSED II began with screening in 2005-2006, followed by six yearly interviews. The information obtained includes data on the nature of those active as nascent entrepreneurs, the activities undertaken during the start-up process, and the characteristics of start-up efforts that become new firms.
>
> The interview schedule for the PSED I or II may be replicated in whole or part with the citation Panel Study of Entrepreneurial Dynamics, Institute for Social Research, University of Michigan (Panel Study of Entrepreneurial Dynamics, n.d.).

Appendix H: Statistician Confidentiality Agreements

CONFIDENTIALITY AGREEMENT

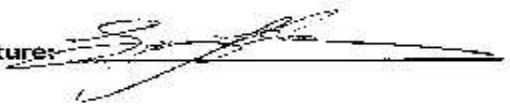
Name of Signer: Dr. Eric LaFlamme
Statistical Consulting Center
Plymouth State University

During the course of my activity in working with data collected for this research: Relationship Between Bootstrap Financing, Number of Employees and Small Business Survival, by Robin Schofield, I will have access to information, which is confidential and should not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

By signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter or destroy any confidential information except as properly authorized.
3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
4. I will not make any unauthorized transmissions, inquiries, modification or purging of confidential information.
5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.
6. I understand that violation of this agreement will have legal implications.
7. I will only access or use systems or devices I'm officially authorized to access and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

Signing this document, I acknowledge that I have read the agreement and I agree to comply with all the terms and conditions stated above.

Signature:  **Date:** Oct 2, 2013

CONFIDENTIALITY AGREEMENT

Name of Signer: Dr. Jon Maatta
Statistical Consulting Center
Plymouth State University

During the course of my activity in working with data collected for this research: Relationship Between Bootstrap Financing, Number of Employees and Small Business Survival, by Robin Schofield, I will have access to information, which is confidential and should not be disclosed. I acknowledge that the information must remain confidential, and that improper disclosure of confidential information can be damaging to the participant.

By signing this Confidentiality Agreement I acknowledge and agree that:

1. I will not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter or destroy any confidential information except as properly authorized.
3. I will not discuss confidential information where others can overhear the conversation. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
4. I will not make any unauthorized transmissions, inquiries, modification or purging of confidential information.
5. I agree that my obligations under this agreement will continue after termination of the job that I will perform.
6. I understand that violation of this agreement will have legal implications.
7. I will only access or use systems or devices I'm officially authorized to access and I will not demonstrate the operation or function of systems or devices to unauthorized individuals.

Signing this document, I acknowledge that I have read the agreement and I agree to comply with all the terms and conditions stated above.

Signature: Jon Maatta **Date:** 10/2/13

Appendix I: E-Mail Invitation to Participate in Research

The following text will be sent to the participant pool requesting volunteers to complete the research survey.

Good afternoon,

My name is Robin Schofield, and I am a New Hampshire resident and doctoral student at Walden University. As part of my doctoral study process, I am conducting a survey to measure the Relationship Between Bootstrap Financing, Number of Employees and Small Business Survival for New Hampshire small businesses.

I am looking for New Hampshire small business owners who have been in business for a minimum of five years to take a 5-10 minute, 33 question online survey. If you are willing to volunteer, could you please complete the survey found at the link below. The survey is completely anonymous and cannot be traced to yourself or your business.

To complete the survey, please click on the following link or copy and paste it into your web browser, https://www.surveymonkey.com/s/RSXGC8S.

If you would like to receive a copy of the results, please forward a separate e-mail to bootstrapstudyNH@gmail.com. By sending a separate e-mail, your participation cannot be linked to the request for study results. Thank you for your time and commitment to NH small business.

Sincerely,

Robin Schofield

Appendix J: E-Mail Invitation to Participate in Research—Reminder

The following text will be sent to the participant pool as a reminder to request volunteers to complete the research survey.

Good afternoon,

My name is Robin Schofield, and I am a New Hampshire resident and doctoral student at Walden University. As part of my doctoral study process, I am conducting a survey to measure the Relationship Between Bootstrap Financing, Number of Employees and Small Business Survival for New Hampshire small businesses. I am following up on a recent request for volunteers willing to participate in a brief survey.

I am looking for New Hampshire small business owners who have been in business for a minimum of five years to take a 5-10 minute, 33 question online survey. If you are willing to volunteer, could you please complete the survey found at the link below. The survey is completely anonymous and cannot be traced to yourself or your business.

To complete the survey, please click on the following link or copy and paste it into your web browser, https://www.surveymonkey.com/s/RSXGC8S.

If you would like to receive a copy of the results, please forward a separate e-mail to bootstrapstudyNH@gmail.com. By sending a separate e-mail, your participation cannot be linked to the request for study results. Thank you for your time and commitment to NH small business.

If you have already participated in this survey, I thank you greatly for taking the time to do so. If you have not participated, I ask that you consider the request to participate. Your feedback on the survey is important to not only my study, but in helping to provide the small business community of New Hampshire with additional information for making informed business decisions.

Sincerely,

Robin Schofield