5-2016

Entrepreneurs' Perceived Factors of Success and Barriers-to-Entry for Small Business and Farm Operations in Rural Paraguay

Braden J. Jensen
Utah State University

ENTREPRENEURS' PERCEIVED FACTORS OF SUCCESS AND BARRIERS-TO-ENTRY FOR SMALL BUSINESS AND FARM OPERATIONS IN RURAL PARAGUAY

by

Braden J. Jensen

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Applied Economics

Approved:

_____	_____
Kynda Curtis, Ph.D. Major Professor	Ryan Bosworth, Ph.D. Committee Member
_____	_____
DeeVon Bailey, Ph.D. Committee Member	Ruby Ward, Ph.D. Committee Member
_____	_____
Chris Fawson, Ph.D. Committee Member	Mark McLellan, Ph.D. Vice President for Research and Dean of the School of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah

2016

ABSTRACT

Entrepreneurs' Perceived Factors of Success and Barriers-To-Entry for Small Business and Farm Operations in Rural Paraguay

by

Braden J. Jensen, Master of Science

Utah State University, 2016

Major Professor: Dr. Kynda R. Curtis
Department: Applied Economics

Agriculture and commerce activities make up a significant part of Paraguay's economy. The success of these sectors is important for Paraguay's continued development in rural areas where agriculture activities are most prevalent and nonagriculture activities are increasing in demand. Current literature indicates many factors that contribute to success in both business and farming operations; however, little information is available regarding the perception of young entrepreneurs and farmers. Paraguay's young population will need more employment opportunities, many of which may come from new start-up operations.

The purpose of this study was to identify attributes and perceptions that affect perceived barriers to business and farming operations in rural areas of Paraguay. This study examined young would-be entrepreneurs and agricultural producers participating in entrepreneurial courses and agribusiness leadership workshops, respectively. Two surveys (small-business and small-farm) were administered to the respective groups.

Respondents were asked to share their perceptions of common business factors that might or might not contribute to small-enterprise success, along with demographic and characteristic questions.

Results of mean test-statistic comparison show that some significant differences exist between the two groups. Some of the most notable differences were larger average family size in the small-farm group, more female participation in the small-business group, a greater average of secondary and postsecondary education in the small-business group, and more respondents reporting more past-experience in the small-farm group. Combining both survey observations and analyzing them with ordered logit models, results suggest that education, training, and past-experience hold a negative correlation with perceived barriers-to-entry to business and farm operations. As education and experience increase, perceptions of barrier factors decrease. This analysis also finds that people who are employed in the private sector are more likely to perceive capital as a barrier-to-entry; whereas land and access to property is more likely to be viewed as a larger hurdle in the agriculture sector.

Educating, training and providing experience to young would-be entrepreneurs and farm operators will improve perceptions of business entry. Future research might include perceptions of current government and nonprofit organization programs and initiatives, to better analyze the effectiveness of such rural development efforts.

(102 pages)

PUBLIC ABSTRACT

Entrepreneurs' Perceived Factors of Success and Barriers-To-Entry for Small Business and Farm Operations in Rural Paraguay

by

Braden J. Jensen

Both agriculture and nonagriculture activities are important for Paraguay's economy and its rural development plan. Ensuring opportunity for successful enterprise creation and expansion will facilitate new business entrance, while also growing rural economies. Past research has identified many factors that contribute highly to business and farm operation success, though little information exists about the perceptions of would-be entrepreneurs.

This study analyzes perceptions and characteristics of young, would-be entrepreneurs and agriculture producers in rural Paraguay to better understand their views of business/farm success and hurdle factors. Results suggest that increased experience, education and business exposure will decrease perceptions of many barrier factors. Access to capital and land were also more likely to be seen as larger hurdles to business and farm entry by employees and students in the private business and agriculture sectors. Development programs/initiatives that can provide entrepreneurial training, enterprise management experience, and access to capital and land might incentivize more would-be entrepreneurs into small-business/farm operations, while also improving their perceptions of entry.

DEDICATION

I dedicate this thesis to the people and the future of Paraguay. Living amongst, working alongside and learning with the Paraguayan people was an experience that has impacted my life in an unforgettable and positive way. The time and service that I have given to this project I dedicate to them.

ACKNOWLEDGMENTS

I thank Dr. Kynda Curtis for her guidance and mentoring through this project. Through the years and over long distances, Dr. Curtis has inspired me to continue learning and exploring no matter what difficulty or challenge may present itself. With extreme patience, Dr. Curtis has instructed me through this research project and has taught me the importance of providing valuable information that will go on to help the people in the rural areas of Paraguay.

I thank Ms. Elisa Echagüe for her leadership and guidance throughout my 27 months of Peace Corps Service in Paraguay. Throughout this, and every other project during my service, she provided me with valuable information and insight on local culture and perspectives. Her level of professionalism and detail that she gives to all projects is amazing. I also thank the other Peace Corps supervisors and administrators for providing me with quality support so that I could stay in the field and continue to work.

To Dr. Ryan Bosworth I say thank you for all of the support and expertise through the modeling and econometrics of this project. I thank Dr. Bosworth for the many un-scheduled meetings, and for always making time to work with me. I thank Dr. Ruby Ward, Dr. DeeVon Bailey, and Dr. Chris Fawson, for their instruction and teaching with which they have provided me over the years, and I appreciate their participation on my research committee.

To my wife, Shalissa Jensen, I express my appreciation and love. I thank her for being my constant companion and for following me to a remote corner of the earth to work with the amazing people and youth of Paraguay. Her enthusiasm, talent and

kindness are motivating and impressive. I thank her for her constant encouragement and support during the entire the process. Thank you!

Braden J. Jensen

CONTENTS

Page

ABSTRACT iii

PUBLIC ABSTRACT v

DEDICATION vi

ACKNOWLEDGMENTS vii

LIST OF TABLES xi

LIST OF FIGURES xii

CHAPTER

1. INTRODUCTION 1
   - Current Conditions in Paraguay 3
   - Economics 4
   - Business Environment 7
   - Population Demographics 9
   - Development Goals 10
   - Economic Development 11
   - Literature Review 14
   - Development Policies 15
   - Success Factors 17
   - Perceptions 25

2. METHODOLOGY AND PROCEDURES 27
   - Survey and Data Collection 27
   - Data Description 29
   - Comparison 35
   - Entrepreneurs vs. Agricultural Producers 35
   - Factors of Success 47

3. MODELING AND ANALYSIS 50
Dependent Variables 50
Variable Set 1 53
Variable Set 2 59
Results 64

4. DISCUSSION AND CONCLUSION 79
Key Findings 79
Future Study 82
Conclusion 82

REFERENCES 84

LIST OF TABLES

Table		Page
1	Favorable vs. Unfavorable Characteristics for Rural Development Policy in Paraguay.	14
2	Test-Statistics of the Difference in Means Small-Business and Small-Farm Groups	37
3	Descriptive Statistics for Dependent Variables	51
4	Variable Set 1 - Demographics - Descriptive Statistics for Explanatory Variables	54
5	Variable Set 2 - Perceptions - Descriptive Statistics for Explanatory Variables	60
6	Ordered Logit Results – Variable Set 1-Demographics Test-Statistics of the Different "Barrier" Dependent Variables	68
7	Ordered Logit Results – Variable Set 2-Perceptions Test-Statistics of the Different "Barrier" Dependent Variables	72

LIST OF FIGURES

Figure		Page
1	Structure of the Paraguay Economy, 2011.	4
2	Paraguay Economic Percentage Growth in Gross Domestic Product.	5
3	Latin American Economic Percent Growth in Gross Domestic Product.	6
4	Top 10 Constraints to Firm Investment in Paraguay, 2010.	7
5	Paraguay Population Pyramid.	9
6	Classification of the Population of Paraguay.	10
7	Combined Survey Responses to Perceived Personality Type of Successful Businessmen or Farmers	32
8	Combined Survey Responses - Perceived Factors that Strongly Correlate to Successful Businessmen or Farmers	33
9	Combined Survey Responses to Perceived Factors that Weakly Correlate to Successful Businessmen or Farmers	34
10	Combined Survey Responses of Respondents that Come From a Family Firm or Not	35

CHAPTER 1

INTRODUCTION

Situated between Brazil, Argentina, and Bolivia, Paraguay is known as the "heart" of South America for its central location on the continent (Rios, 2015). Though not as popular as its three closest neighbors, Paraguay is a country that is rich in heritage, natural resources, and human capital. Typically known for its two official languages (Spanish and Guarani), and its position as a world leader in renewable energy, Paraguay is a developing, landlocked country that is slightly smaller than the geographical size of California (Cardozo, 2012). The country has been plagued with political instability, income inequality and high levels of poverty over the last century, and was under dictator rule for 35 years (Central Intelligence Agency, 2015). Paraguay has a relatively young government, which has since returned to democracy in 1989 (Central Intelligence Agency, 2015). With a young, unstable government, an older generation that is accustomed to strict dictatorship rule, and poor infrastructure, the country's economic growth has been inconsistent and difficult. Rated as the poorest country in South America for many years, Paraguay currently suffers with 34.7% of the population living below the poverty level and a 5.5% unemployment rate (Central Intelligence Agency, 2015). These factors are challenging for any country; however, progress seems to be on the horizon for this Guarani nation.

With over a 13% growth in gross domestic product, Paraguay had the fastest growing economy in South America in 2010 and 2013 (Central Intelligence Agency, 2015), though such growth has been difficult to maintain. Most of Paraguay's economy is formed around production agriculture and small business (Unidad Tecnica de Estados

para la Industria, 2011), with more than one-fourth of the population working in the primary sector. Small businesses and commerce are other large contributors to national gross domestic product. With a market economy that is largely distinguished by a very large, yet hard to quantify, informal sector, the country has many problems with black-markets and illegal contraband (Central Intelligence Agency, 2015). Though efforts are being made to control such issues, corruption, political uncertainty, and lacking infrastructure present some challenging obstacles that will effect long-term growth.

Paraguay has a very youthful population (Central Intelligence Agency, 2015), that is increasing in education and training (Ministerio de Agricultura y Ganadería, 2013). This is an advantage to the nation if it can supply sufficient opportunities for its new generation. With 40% of the population living in rural areas, the Ministry of Agriculture and Livestock has set forth several initiatives to better prepare and educate youth in the areas of business creation, management, and entrepreneurship in both traditional and nontraditional agriculture activities (Ministerio de Agricultura y Ganadería, 2013). Efforts are also being made to strengthen family agriculture operations to increase food production and improve family income generation. Many of these initiatives will require infrastructure advancement, education programs, market development, and public policies that will facilitate business creation and/or improvement. Understanding the barriers that inhibit and detour individuals from entering or starting small-business operations, whether agriculturally or nonagriculturally based, will be important as policies and initiatives are carried out in rural areas. The perceptions of business success, and those factors that contribute to it, are also key as the government looks to grow the rural business sector.

This study aims to understand the perceptions of young entrepreneurs and agriculture producers in the rural areas of Paraguay regarding factors leading to business success and entry. Using survey data collected in person in Paraguay, this study will provide an understanding regarding factors of success in small business and farm operations, and the perceptions of such factors. Results of the analysis can be used to inform policy makers and educators on the perceptions, limitations and advantages of young entrepreneurs and agricultural producers that have an interest in operating their own business and/or farm operation. With knowledge of the perceived barriers to business entry and the contributing factors to business success, Paraguay can institute policies to facilitate economic growth, while also providing its youth with opportunities for advancement and progress.

Current Conditions in Paraguay

The current conditions in Paraguay allow for moderate to fair growth in many industries. This section explores specific conditions in the areas of economics, business environment, and population demographics. With a high percentage of the population located in rural areas of the country and depending on agriculture and small-commerce activities for a living, production agriculture and nonagriculture sectors alike will be especially highlighted in the subsections that follow.

Economics

The economic situation in Paraguay is highly distinguished by production agriculture, informal businesses, and the service/retail sectors. A high percentage of the Paraguayan population derives their living from either agricultural or small-business activities, with agriculture and livestock sectors contributing a combined 23.6% to the national gross domestic product in 2011 (see Figure 1). Typical of most developing countries, Paraguay's industrial/manufacturing sector is relatively small and underdeveloped (Ministerio de Agricultura y Ganadería, 2013), while the service sector is particularly large. This is common due to the difference in the amount of capital needed to start enterprises in the industrial sector compared to the service sector (Ekanem & Wyer, 2007).

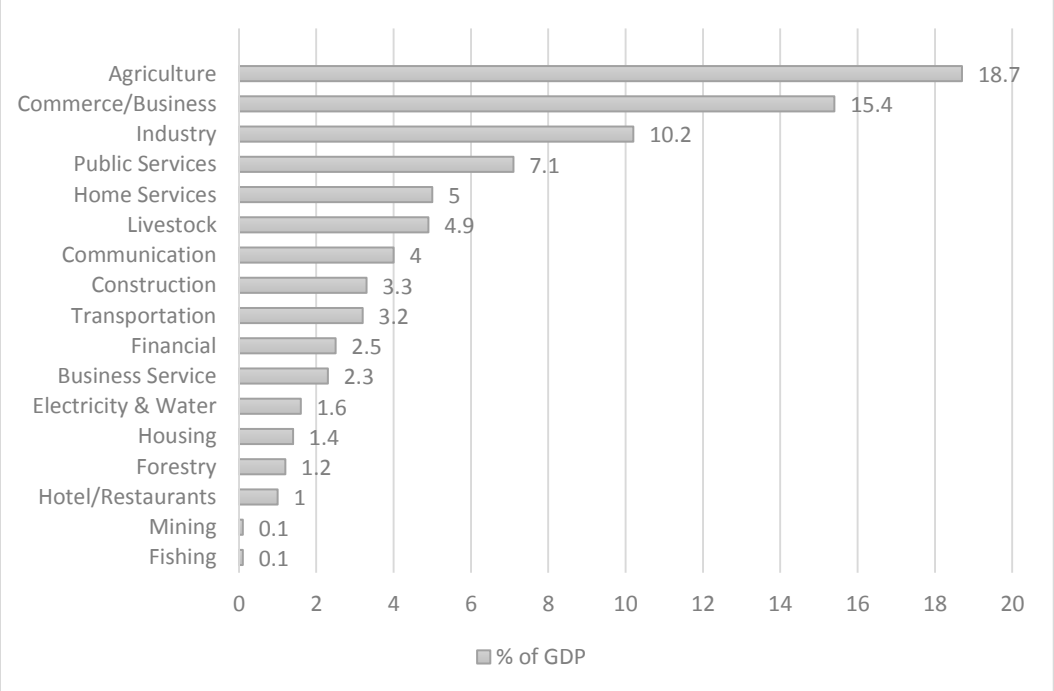

Figure 1. Structure of the Paraguay Economy, 2011
(Unidad Técnica de Estudios para la Industria, 2011).

During 2003-2008, Paraguay's economy grew rapidly with favorable prices, inflation rates and weather conditions, largely aiding the country's commodity-based exports (Central Intelligence Agency, 2015). This growth in the economy was enjoyed until drought caused large crop production and export losses, even before the tremendous economic slow-down of the global recession in 2008. In 2009, the economy fell 3.8% with low world demand and commodity prices causing exports to contract (see Figure 2). In an attempt to regain economic stability, the government reacted with financial stimulus packages that helped the economy recover in the following years (Central Intelligence Agency, 2015).

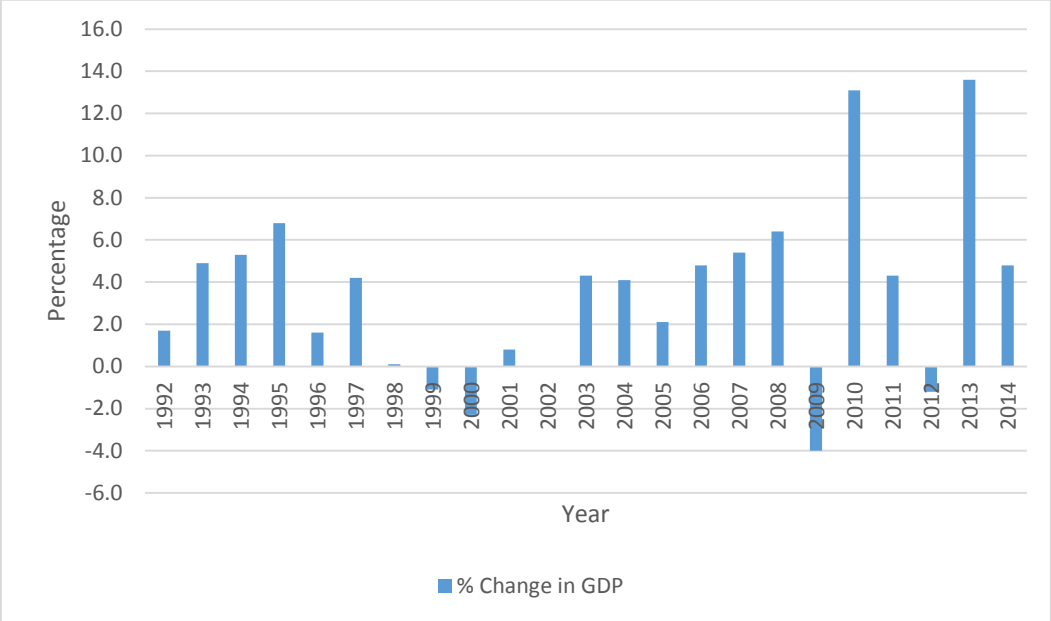

Figure 2. Paraguay Economic Percentage Growth in Gross Domestic Product (Gobierno Nacional - Paraguay, 2014).

Paraguay's economy, in comparison to other Latin American countries, is small, yet still growing. Throughout the past decade, Paraguay has been among the fastest

growing economies in Latin America (see Figure 3), but also being ranked among the least competitive (La Asesoría Econónica del la Asociación Rural del Paraguay, 2008). Advancements in communication, progress with infrastructure, increasing education, and growing export markets has aided largely to economic growth and expansion. Some of the major commodities exported to neighboring countries and China are soybeans, livestock feed, cotton, meat, edible oils, wood, and leather (Central Intelligence Agency, 2015), with meat exports significantly rising over the past decade (La Asesoría Econónica del la Asociación Rural del Paraguay, 2008). With Paraguay's re-entry to MERCOSUR (Spanish: Mercado Común del Sur, English: Southern Common Market) in 2013, exports for most commodities are projected to increase, aiding in the continued progress of the economy (Marty, 2014). As the economy improves, it may well be presumed that more Paraguayans feel an incentive to remain in country, instead of seeking employment and better opportunity abroad.

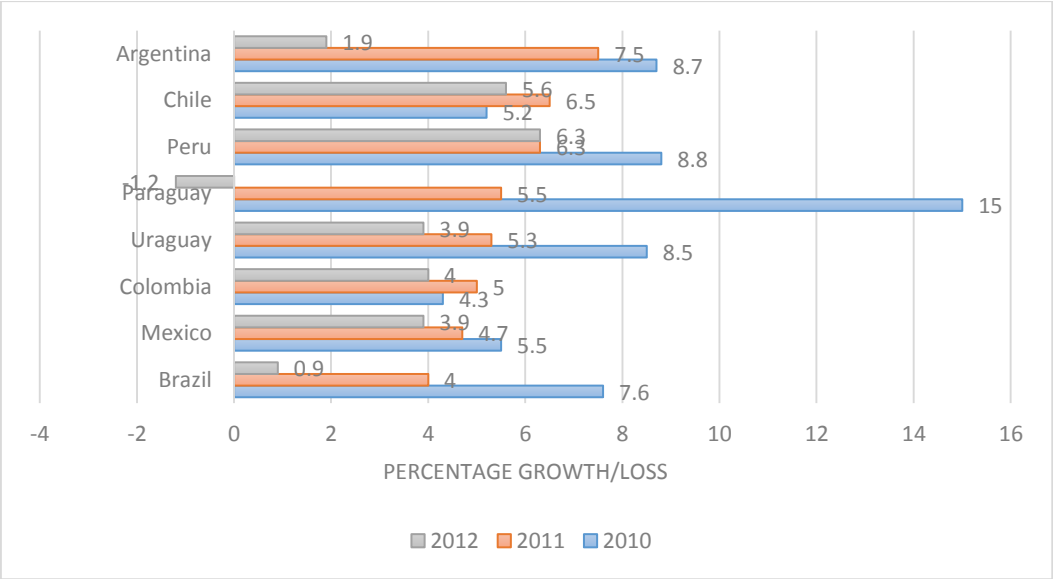

Figure 3. Latin American Percent Growth in Gross Domestic Product (Ministerio de Hacienda, 2012; Ministerio de Agricultura y Ganadería, 2013).

Business Environment

Doing business within the borders of Paraguay offers opportunity and many challenges. Of 185 economies that were analyzed by the World Bank, Paraguay ranked 103 in doing business in 2010 (World Bank, 2010). Many of the obstacles that present themselves repeatedly to investors and entrepreneurs are the practices of the informal business sector, an inadequately educated workforce, and corruption (see Figure 4). The issue of the informal sector is becoming an increasingly large problem, with 75.3% of firms reporting competition against unregistered and informal firms, in comparison with the 62.3% for the region. Additionally, 17.5 % of the firms in Paraguay report having to make informal payments to public officials to get projects done, which is higher than the region's average of 10.9% (World Bank, 2010). Though these issues are challenging, it does appear that doing business is slowly improving within Paraguay. In 2014, Paraguay was second among South American countries in becoming easier to do business (The World Bank, 2014).

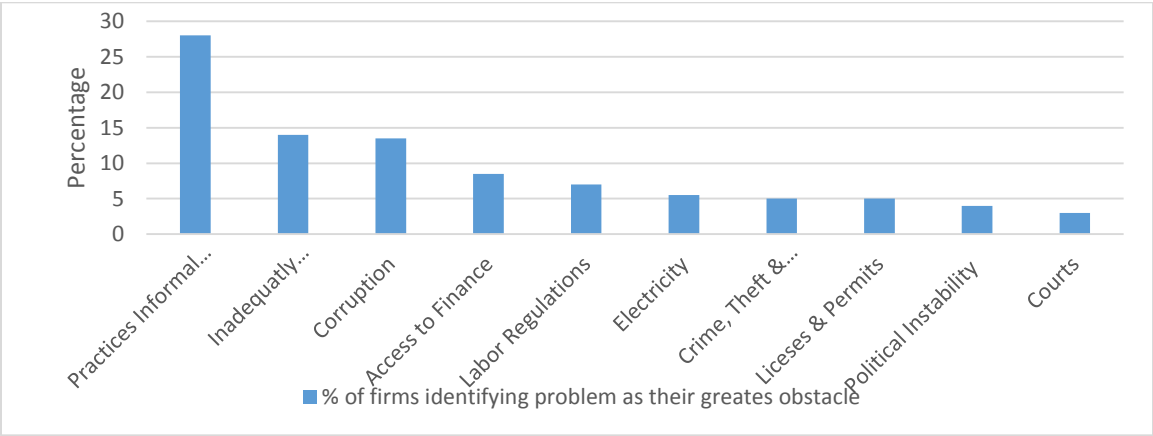

Figure 4. Top 10 Constraints to Firm Investment in Paraguay, 2010 (World Bank, 2010).

Small and micro-businesses dominate the Paraguayan economy, with 78% of the employment based in these sectors (Unidad Técnica de Estudios para la Industria, 2011). This means plenty of competition for new-entries and start-ups. Research shows that on average, it takes more than 30 days to get a business up and running formally in Paraguay (Central Intelligence Agency, 2015), while informal businesses are difficult to monitor. Amongst college students worldwide, degrees in business and business administration are among the most common and popular (Pfeffer & Fong, 2002). This is assumed to be the case in Paraguay though no studies were found to confirm this. Several initiatives from the central government and Ministry of Education have included entrepreneur education and promotion in order to encourage and provide youth with additional opportunities (Gobierno Nacional - Paraguay, 2014).

In 2008, there were nearly 290,000 farms in Paraguay, with over one quarter of the workforce employed in the primary sector (Cardozo, 2012). Paraguayan farmland spreads across 31,086,894 hectares, with 3,365,203 hectares dedicated to crop production. Livestock operations, particularly cattle ranches, are contributing an increasing amount to national gross domestic product with the increase in demand and export of meat. A high percentage of the total number of farms and ranches in Paraguay are owned by individuals or families. Subsistence farming exists in many areas of Paraguay where outside employment options are scarce (Ministerio de Agricultura y Ganadería, 2013).

Population Demographics

The population of Paraguay is a little over 6,700,000, with a 1.16% growth rate, and over 90% literacy (Central Intelligence Agency, 2015). Unlike many countries, Paraguay's children and youth (*people under the age of 30 years*) make up over half of the population (see Figure 5), and over 80% of the population is within working age (see Figure 6). In 2015, over 59% of the population lived in urban areas, with a 2.1% rate change of urbanization since 2010. Most of the population is bilingual, speaking both Spanish and Guarani, while there are also many indigenous tribes/groups and European and Asian colonies. In 2012, unemployment in Paraguay amongst youth, ages 15-24, was 11.2%, and the overall population unemployment was over 5% (The World Bank, 2014). The majority of the population works in small businesses, with over 80% working in the primary and tertiary sectors (Central Intelligence Agency, 2015).

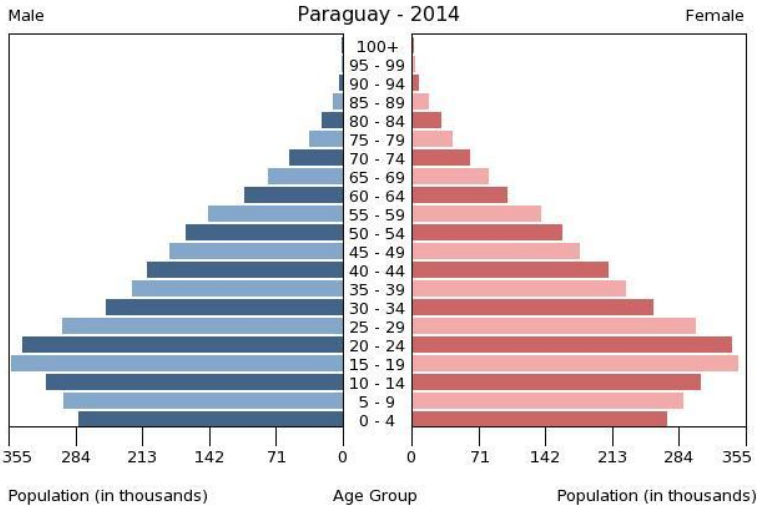

Figure 5. Paraguay Population Pyramid (Central Intelligence Agency, 2015).

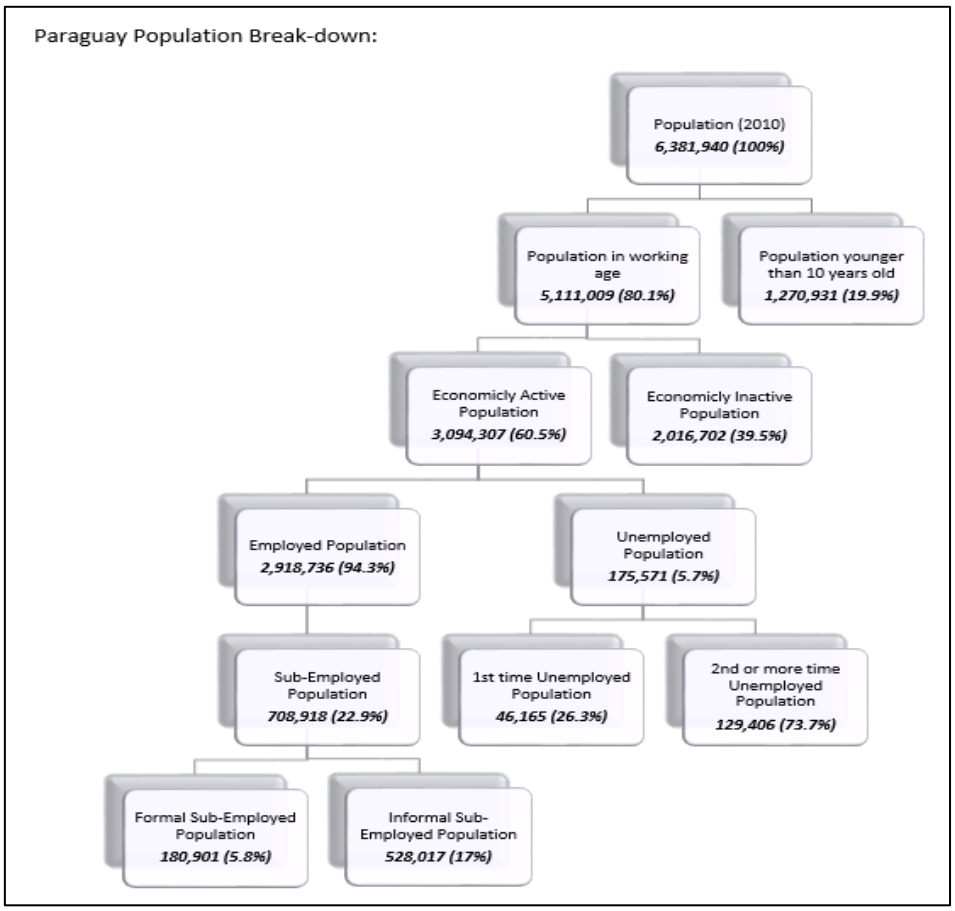

Figure 6. Classification of the Population of Paraguay (Cardozo, 2012).

Development Goals

As Paraguay continues to develop, many strategies have been established and goals set to improve and grow rural economies. Much focus has been given to both the agriculture and small-business sectors, with the hope that such efforts will provide more opportunities in these small rural areas. Small business, production agriculture, family farms and entrepreneurism are many topics frequently discussed when establishing development policy. These areas will be emphasized in the following section.

Economic Development

The Ministry of Agriculture and Livestock has set a number of plans to further develop the rural sector of the country. It has identified a number of characteristics that make development efforts favorable and unfavorable in Paraguay (see Table 1). Many of these characteristics deal with demographics of the rural population, education levels, natural resources, quality and adequacy of infrastructure, and other socioeconomic factors. Improved education and training of Paraguay's rural population, increased business activity in rural areas, and improved infrastructure add to a number of favorable factors in rural development policies for the country (Ministerio de Agricultura y Ganadería, 2013). Unfavorable factors in Paraguayan rural development include the high level of poverty, the lack of entrepreneur training, high levels of informal businesses, low quality jobs, deficit of financing options for small and medium enterprises, and a weak presence of public agriculture agencies and institutions.

As part of its strategic plan, the Ministry of Agriculture and Livestock looks to improve the competitiveness and sustainability of production agriculture within the country, while also promoting nonagriculture income opportunities (Ministerio de Agricultura y Ganadería, 2013). Some of the specific goals as they relate to this topic are:

- Creating conditions for agricultural producers to achieve curtain specializations that provide a competitive position in the market, based on an appropriate combination of higher productivity and lower unit costs from the development of human capital and sustainable resource management, while also incorporating natural and technological innovations.

- Facilitating producers' access to information technology, to increase sustainable productivity and to ensure that the products achieve the established health, safety and quality standards.
- Developing an effective institutional system, capable of generating and transferring appropriate technology to production systems.
- Generating an attractive business environment for the development of socially inclusive production chains that generate employment and promote the formation of human and social capital.
- Obtaining greater value of agricultural products through innovations in the production process (*certifications of good production practices, fair-trade, organic products and others*) and product quality to achieve higher margin or economic return. (Ministerio de Agricultura y Ganadería, 2013)

These goals outline the vision that the ministry has for the rural areas in the country, while showing a considerable amount of interest in improving the opportunities and advantages of both agriculture producers and nonagriculture businesses.

Entrepreneur development and employability training form part of this strategic plan that the ministry will continue to execute for the next several years (Ministerio de Agricultura y Ganadería, 2013). Many of the efforts will focus on capacity building for entrepreneurs in both agriculture and nonagriculture industries, while promoting an increase of demand for nonagricultural goods and services. It is expected that such efforts will foster and create small-enterprises that can provide quality jobs for the rural population. As a part of this focus, the promotion of gender equality throughout the rural

sector is also highlighted. This may be due to the common inequality that exists typically in the agriculture sector.

Family farm operations form a considerable part of Paraguay's rural picture. Though some family farms only produce on a subsistence basis, opportunity exists for these operations to improve their economic conditions and increase their standard-of-living. Expanding market opportunities, trainings on product specialization, increasing food production for the farm family, and improving family income are all efforts being made by the Ministry of Agriculture and Livestock to help the family farms and the rural sector (Ministerio de Agricultura y Ganadería, 2013). Many of these practices aim to not only improve the rural economy, but also the quality-of-living for these farm families.

The Ministry of Commerce and Industry has also established goals to improve the business environment and increase market options (La Asesoría Econónica del la Asociación Rural del Paraguay, 2008). Facilitating access to credit, particularly for those smaller enterprises that struggle to find financing options, is one of the institution's highest priorities. Expanding markets, both foreign and domestic, will improve favorable business possibilities, while technology training will increase competitiveness in global markets. Communication and infrastructure improvements will greatly impact rural economies as information and goods can be shared more efficiently. The ministry has also set plans to improve the formalization of businesses and enterprises within the country, while incentivizing fair-trade amongst global partners (Gobierno Nacional - Paraguay, 2014).

Table 1. Favorable vs. Unfavorable Characteristics for Rural Development Policy in Paraguay (Ministerio de Agricultura y Ganadería, 2013).

Favorable:	**Unfavorable:**
• Younger and better educated population. • Increased nonagricultural income due to the increase in demand for services in the rural sector: healthcare, education, housing, utilities, information and the full range of technical professions that facilitate self-employment. • Increased use of information technology. • Legal mandates of public institutions for employment formation and training of human resources. • Programs to strengthen human capital through training facilities and training of public and private entities. • Increased business activity in rural areas, both agricultural (including livestock) and forestry level activities generate demands of secondary and tertiary activities. • Increased urbanization and road infrastructure that shortens distances to markets.	• High level of poverty of the rural population • Gender inequality and low level of recognition regarding the participation and importance of women in the rural labor market. • High level of unemployment • High rate of business informality • Low quality jobs, underpaid and a lack of both legal and cultural institutional conditions for decent employment. • Training programs oriented to the training of employees rather than entrepreneurs. • Lack of coordination between institutions that promote rural employment, with some cases where their functions overlap. • Lack of public-private partnerships to create joint entrepreneurship development programs in rural areas. • Lack of education and training for life and work. • Deficit financing programs for small and medium enterprises. • Bureaucracy for the formalization of companies. • Limited experience in the management of incubators and technology parks. • Weak presence of the agrarian public institutions in programs and employment development projects.

Literature Review

Many studies have focused on strategic plans and development procedures in aiding rural areas in developing countries. Much attention has also been given to leading success factors in business and enterprise. This section highlights some of the specific

strategies in rural development in Latin America, along with commonly found factors that are correlated to success in business and farm operations.

Development Policies

Many governmental and nonprofit organizations take a considerable amount of time creating and establishing viable development policies. Most policies aim to improve the socioeconomic factors, quality-of-life and economic growth of a country or an underprivileged group/sector. Many organizations within Paraguay are looking for ways to improve economic growth and to increase family income in rural areas. Many studies have shown that good rural development policies operate on the basis of a "grass-roots" or "bottom-up" approach. Altieri and Masera (1993) highlight the quality and effectiveness of such approaches in their study on sustainable, rural development in Latin America. Initiating development efforts with what already exists in rural communities is the key. The local people's experience and knowledge of their land, resources, and networks are all great starting points for development projects, while also taking in to consideration their needs and aspirations. Empowering the local people and leading them to address the issues of poverty, unsanitary living-conditions, environment degradation, among other problems, will have a greater probability of success in comparison to "top-down" approaches (Altieri & Masera, 1993). Many well-intentioned projects have failed due to this type of development effort. Teaching rural communities to use and leverage their resources and the skill-set that they have is crucial.

In another study of investment strategies in Latin American, de Janvery and Sadoulet (1989) came up with five approaches to rural development. The approaches are:

farm-oriented rural development, household-oriented rural development, access to land reform and colonization, employment creation and labor market rationalization, and rural linkages. Farm-oriented projects are focused on improving production on small-scale farms. Many of the instruments that are used to stimulate such increase in production are credit options, new technologies, soil conservation, water control, infrastructure investment, extension resources, marketing, and the promotion of grass-root organizations. These projects were proven most useful in policy that is aimed to assist small-scale farmers (Janvery & Sadoulet, 1989).

For those people who do not have access to land, household-oriented and employment-creation projects look to increase house-hold income from both nonagriculture and subsistence-agriculture activities (Janvery & Sadoulet, 1989). Such projects will look to improve employment options out of the house, and training/education programs to promote self-sustaining activities. Out-of-home or off-farm income has been shown to make a significant difference in improving household earnings and living-conditions (Pritchett, Johnson, Seitzinger, Thilmany, & Pendell, 2011). The frequency of land development projects demonstrates that land is major determinate of rural welfare. Policy that provides the rural population with access to land can spur economic growth in rural areas; however, it is also important to consider the ecological and environmental impacts that these policies can create (Janvery & Sadoulet, 1989).

When addressing the issue of rural development, it is clear that the sole focus on improving production agriculture will not provide a solution for the majority of the rural population that find themselves in poverty. Even with policy that aims to improve farm-

family income and their quality of living, there can still be a significant portion of the rural population left in difficult economic situations. To solve this issue, projects that proved linkages between agriculture and nonagriculture activities are needed (Janvery & Sadoulet, 1989). Income generated in production agriculture can serve to activate other sectors of the economy. Projects that link the inputs that farmers use in their operations and create/add value to their outputs are the type of rural policy that best facilitate the nonagriculture sector. Small businesses and firms serve as these linkages, allowing the rural economy to further grow and develop. Training the rural population in the area of entrepreneurship, business management, and employee development are efforts that are expected to aid in the success and expansion of rural economies (Ministerio de Agricultura y Ganadería, 2013).

Success Factors

There are many factors that significantly contribute to the success of an operation; a review of current scholarship suggests that planning and administrative skills, resource characteristics, personality type and tendencies, product/service mix, market features, and financial management are major factors of both business and farm success. This section will elaborate on these factors and the supporting research. While some difference exists between business and farm enterprises, many principles are similar and applicable for both operations and sectors.

Planning/Administrative Skills

Keeping records, setting clear goals and business planning are commonly found in any good organization and are typically factors that lead to success in businesses and farms (Yeboah, Owens, & Bynum, 2011). Administrative capacities largely affect the day-to-day operations of a business and are the means by which success can be achieved. In a study analyzing ethnic minority entrepreneurs, management skills were identified as the leading key to success of the enterprises researched (Ekanem & Wyer, 2007). Though extremely essential, management capacities are not always recognized for their importance in the overall success of a firm. Ekanem and Wyer interviewed several entrepreneurs whose enterprises failed, and who clearly did not fully understand their lack of management abilities. Typically, those entrepreneurs that can learn to develop appropriate management skills and strategies, while also learning from previous mistakes, are those who will find success in their businesses (Ekanem & Wyer, 2007).

There are many management strategies that business and farm operators can apply to facilitate their operations while also mitigating risk; some of these include the forward contracting of inputs, spreading sales throughout the year, participating in government programs and insurance policies, and diversifying products/services (Mishra, El-Osta, & Johnson, 1999). Having a good understanding of all the dimensions of one's business, as well as identifying areas of weakness and potential problems is important. For example, Titus' (2004) research suggests that a careful and constant examination of company resources and products demanded by customers is a crucial part to business existence and success. Too many businesses do not have a clear vision of their own strengths, weaknesses, and industry attractiveness (Hax & Majluf, 1983), and also lack a true

understanding of their consumer demand (Meyer & Schwager, 2007). These factors can lead to missed opportunity and, ultimately, business failure if not corrected.

Managing growth is an important administrative skill that is also key to the success of businesses (Lussier, 1996). Having sufficient capital to support a firm's growth is just as important as having sufficient capital when starting the new enterprise. Lussier suggests that businesses strive to maintain fixed costs as low as possible throughout their operation, thus allowing for a larger margin to protect firms from unforeseen costs. The error of many enterprises is that the growth of their business exceeds the growth of their market (Lussier, 1996).

Resource Characteristics

Resources in business vary from land to machinery, technology to personnel, amongst others. Understanding how to best utilize these resources is a skill that can greatly improve business performance. An example of this is the use of technology and improved operation practices. In a study of cash grain farms in the United States, it was found that the adoption of technology proven successful in specific geographical areas lead to improved production and earnings while those that failed to implement more efficient technologies tended to lose competitive advantage (Mishra, El-Osta, & Johnson, 1999). This study also found that farmers that seek technical support and extension resources/trainings appear to be more successful. This result is consistent with Frese, Brantjes, and Hoorn's findings that suggest that entrepreneurs in Namibia that receive entrepreneurial orientation have a higher probability of success (Frese, Brantjes, & Hoorn, 2002). Lussier (1995) suggests that entrepreneurs get plenty of professional help

while researching their markets, establishing their business goals and creating a business plan; receiving as much training and experience as possible in one's specific industry is a common piece of advice given by many business owners to would-be entrepreneurs.

Human capital is a resource that can greatly influence business success. In a study analyzing human capital as a predictor of new venture performance, experience, education and training levels of employees were found to be factors that influenced both the survival and growth of new businesses (Cooper, Gimeno, & Woo, 1994). Studies show that businesses from all sectors and industries want employees that are self-motivated, good communicators, and who have positive work attitudes and high ethical standards (Howard, Fairnie, Schneider, & Litzenberg, 1990). Hiring the right person for the right job, while also aligning employees' vision and understanding of the business with the overall mission of the firm, is important when aspiring for business success (Lussier, 1995). An organization's success cannot be achieved by just one individual, but rather it has to be the purpose of all firm members to be attained.

Family-owned and operated businesses have many unique dynamics and resources in comparison to other small businesses. While these dynamics provide opportunities for advantage, they can also present unique challenges, for example, the separation of both business and personal assets, employee management and position amongst family members, as well as business growth and its potential of supporting additional employees and/or family members (Chua, Chrisman, & Sharma, 1999). Understanding how to manage these issues and resources are important for the success of the enterprise. Relationships with employees – many times family members – have a large impact on the business environment and operation. The participation and/or

commitment level of a spouse towards a family operated business can be a factor that can greatly affect the success, or failure, of a business (Van Auken & Werbel, 2006). Good communication skills, business planning, role/task distribution amongst business members, and clear goals and expectations are critical factors to successful family businesses. Many family farm operations in the U.S. at least partially rely on off-farm income to provide financial stability and insurance benefits for the family (Thimany, Pendell, Johnson, Seitzinger, & Pritchett, 2011). The option of other sources of household income is another important factor to consider for family operations.

Personality Type and Tendencies

Personal characteristics and personality types are traits that affect a person's interaction with others, as well as their ability to manage people and operations. Though difficult to predict, different personality types appear to be more willing to try their hand at entrepreneurial ventures (Caliendo & Kritikos, 2008). Studies have suggested that people who feel a strong need for achievement and those who are problem-solving oriented tend to be entrepreneurs instead of employees (D'Intino, Goldsby, Houghton, & Neck, 2007), while also experiencing varying levels of success (Caliendo & Kritikos, 2008). Many entrepreneurs suffer from the stress of over-immersion in business, loneliness, social problems and an over sense or need to achieve. Despite these stresses, many are able to employ strategies that allow them to overcome their challenges and achieve success in their operations (D'Intino, Goldsby, Houghton, & Neck, 2007).

Many factors motivate people in their occupation. For some it is income; for others it is interest or passion; and yet for others it is lifestyle. These factors are important

to consider when measuring success (Neely, Adams, & Kennerley, 2002). For example, interest in, and a love for the business or farm, is a characteristic that is common among successful owners and operators. In a study researching farm operations in North Carolina, farm income was found to be less important than anticipated in the measure of operation success (Yeboah, Owens, & Bynum, 2011); yet, income is one of the easiest methods to measure. Many economic development goals are established to improve family income, with the intent that such improvements will increase living standards and comforts.

Studies have shown that certain social behaviors and competencies have a strong correlation with the financial success of a business. Accuracy in perceiving others and social adaptability were found to relate to financial success in several industries (Baron & Markman, 2003). Other research suggests that the alignment between person and organization will greatly affect not only job satisfaction, but also performance. Close matches between the personal characteristics and the tasks of being an entrepreneur have also been found as factors of success in business (Markman & Baron, 2003). It is apparent that many social dynamics play important roles in enterprise success, though not commonly anticipated.

Product/Service Mix

Many successful farmers choose diverse production systems as a means of risk management (Safdar, Fisseha, & Ekanem, 2004). Diversified farming operations and the existence of specialty crops/products tend to be more resilient during challenging times due to multiple market options (Yeboah, Owens, & Bynum, 2011). Many studies show

similar findings for businesses in general. Having diversified products/services also tends to diversify a firm's customer base. A broader product variety will increase the probability of a firm's survival when specialized-products markets consolidate (Baptista, Karaoz, & Leitão, 2010). For multiproduct firms, there exist several strategies to realize economic benefit. Hill and Hoskisson (1987) suggest three strategy types: vertical integration, related diversification, and unrelated diversification. The easiest of the three is related diversification, which allows firm operators to diversify their product mix using many of the same inputs and procedures. This permits ease to market-entry and typically a broader consumer base. Expansion into unrelated products can prove economically beneficial, but should be done with caution, with an attempt to keep fixed costs low (Hill & Hoskisson, 1987).

Market Features

Those farmers using different marketing strategies to achieve improved levels of profit tend to have a greater probability of success (Safdar, Fisseha, & Ekanem, 2004). In many cases, higher profit margins can be achieved in direct-to-consumer markets; however, having multiple market options can prove more advantageous to a producer's overall earnings (Park, Mishra, & Wozniak, 2013). Studies done in the U.S. suggest that farmers that choose to only sell through direct-to-consumer channels report earnings that are significantly lower than those producers that have a more diversified marketing strategy.

A firm's location and proximity to its markets commonly has a high impact on overall business success. In rural areas, where infrastructure can sometimes be lacking,

accessibility to one's market is a factor that can largely influence sales and future contracts (IFAD, 2001). This is of particular concern in agriculture, where many farms/ranches can be isolated and distant. Typically, in the United States, studies have shown that a small or medium size farm's proximity to urban and metro areas does better in comparison to those whose locations are distant and remote (Johnson, Seitzinger, Thilmany, Pendell, & Pritchett, 2011). In developing countries, where infrastructure is typically lacking or in need of repair, or where transportation options are limited or expensive, a firm's location can become one of the largest factors of success (IFAD, 2001).

Financial Opportunities/Management

Research done on new ventures suggest that access to financing and the amount of capital both contribute to the survival and growth of the business (Cooper, Gimeno, & Woo, 1994). A lack of financing, or the inability to access reasonable cost financing, is a major constraint for many entrepreneurs, leading many to end their pursuit or attempt to start their enterprise being grossly undercapitalized (Ekanem & Wyer, 2007). In his study on why firms fail, Lussier (1996) found that many firms' fixed costs were too high, and many lacked adequate amounts of capital. He suggests collecting an estimate of costs of one's business and then doubling it to ensure adequate funding. Once the firm begins to earn money, the temptation to increase fixed costs should be avoided, so as to have a sufficient margin of financing to cover unforeseen costs or factor failures.

A study done on cash grain farms in the United States suggests that controlling the variable costs of production and the machinery cost will greatly improve the

likelihood of being successful (Mishra, El-Osta, & Johnson, 1999). This research used economic models to identify factors related to farm firm success. Results suggest that those firms that have control over their cash operating expenses are more likely to have success in comparison to those that do not. Having capital tied up in machinery can greatly limit a firm's financial opportunities and flexibility. The adoption of financial management tools and measures that control operation costs and help manage debt can greatly improve success rates (Safdar, Fisseha, & Ekanem, 2004; Yeboah, Owens & Bynum, 2011).

Perceptions

Perceptions of an operation's success can differ greatly based on one's interpretation, experience and understanding. Not all business owners consider income and profit the only measure of success (Markman & Baron, 2003). For many, success is measured by the level of independence or autonomy that an operation has in the marketplace. Others consider interest-level, or the passion/love that one feels towards the industry or business that they work in, or operate, as being the most important measure of success (Markman & Baron, 2003). Some people place a significant value on the lifestyle that certain businesses or operations offer. While measures of success differ amongst individuals and industries, and while this topic has been researched by many scholars, the topic of perceptions of business/operation success amongst young, would-be rural entrepreneurs is lacking. Yusuf studied the perceptions of both indigenous and nonindigenous groups in the South Pacific finding significant differences between these two groups (Yusuf, 1995). Perceptions on the usefulness and/or need of initial

investment/capital, government support, oversea markets and exposure, education/training level, prior experience and personal qualities were among the noted differences.

The intention of this study is to examine the perceived factors of business and farm operation success of young entrepreneurs and agriculture students in rural Paraguay. Taking into consideration both the agriculture and nonagriculture sectors of the rural community, perceptions of resources, management, personality, education, and markets held by would-be entrepreneurs and farm operators will be considered in this research. The findings of this study can aid policy makers, educators, and researchers in the area of rural development.

CHAPTER 2

METHODOLOGY AND PROCEDURES

With the need for rural development policy that aims to support both the agriculture and nonagriculture sectors, this study examines the perceptions of success and perceived barriers-to-entry held by young entrepreneurs and agricultural producers in rural Paraguay. This chapter goes into the details of the survey instrument created for the project, the data collected, and the comparison of data results and statistics.

Survey and Data Collection

This study examined young entrepreneurs and agricultural producers in Paraguay participating in entrepreneurial courses and/or agriculture leadership trainings that were sponsored by the United States Peace Corps. Two survey instruments were created, first in English and later translated in Spanish, with the purpose of identifying perceptions and opinions of young would-be entrepreneurs. Information was also gathered from those people who come from families with small businesses or farm/ranch operations. One survey was specific to small business in general (70 questions in all), and was administered to participants of the entrepreneur courses. The other survey was specific to farm/ranch operations (71 questions in all), and was administered to participants of agriculture leadership training workshops or courses. Each instrument was designed using similar questions and formatting, to be able to compare results across the two groups. Both survey instruments were created using Survey Monkey, allowing the survey to be offered online or by hardcopy.

Prior to the survey's use, each instrument was reviewed and inspected by a native Paraguayan, who served as a direct supervisor to this project to ensure question appropriateness, culture sensitivity, and language correctness. Each survey was pretested on a small subset of the target participants (n=10) to correct and redefine any misleading/difficult questions or technical terminology prior to the survey's full deployment. Emails were sent and phone calls made to institution administrators and teachers requesting permission to survey class and workshop participants on their premises. Arrangements were made to have at least one native administrator/class-facilitator present with one American Peace Corps Volunteer when the surveys were presented and delivered to the class participants. Each person was free to choose to take the survey or not, with no consequences. All potential respondents were screened to ensure they were 18 years old or older, while also receiving a consent statement, a description of the research project and contact information for both the Paraguayan and American citizens supervising the project. Hardcopies were available for willing participants, and information given to participants of an electronic version available online.

Of the 200 people (98 for the small-business survey, 102 for the small-farm survey) that met the criteria and began the survey, 179 people (87 for the small-business survey and 92 for the small-farm survey) actually completed the 20-minute survey. Respondents were asked to share their perceptions of common business factors that might or might not contribute to small-enterprise success (management skills, personality type, access to resources, experience/education, etc.), along with demographic questions (age, gender, employment, education level, family size, etc.). In addition, those panelists that

came from families with small businesses or small farms were asked questions regarding the specifics of their operations (type of business/operation, products/services offered, strategies/tools used, success level of the operation, financial indicators, etc.). When panelists finished taking the survey, they were instructed to place the surveys in a folder that was located near the exit of the room, or they were directed to a thank you page if they were taking the survey online. Surveys that were completed by hardcopy were manually entered and compiled into Survey Monkey. Data was then cleaned, standardized and prepared for analysis and study. Open-ended questions were summarized and are included in the data sets.

Data Description

This research looks specifically at perceptions of young would-be entrepreneurs and farm-operators to provide an understanding of their perceived factors of success and barriers-to-entry.

Of the 179 people surveyed in this study, 79% were between the ages of 18 and 30 years, the age range of youth in Paraguay. A slight majority of the survey respondents have relativity large households with 51% having at least five people in their immediate family. Nearly three fourths of the respondents are currently students, with 53% having received at least some postsecondary education, and 20% receiving some type of degree. Only 6% reported studying in the areas of business administration, finance and/or economics, while 21% reported studying the areas of agriculture and/or veterinary science. A slightly higher percentage of females participated in the survey in comparison

to males. When asked about future occupation plans, 63% reported seeking employment in the private sector, with 46% reporting plans of being self-employed or seeking employment with their family businesses. Of the panelists, 68% responded to having moderate to high levels of experience with small-business or farm operations, and 92% on planning on owning and/or operating their own enterprise in the future.

Measures of business success differ from one person to another. Though it is common to use financial measures to gauge success, other factors can also contribute to perceptions of success regarding business. When asked if they would use business profit and/or revenue as a measure of success, 83% of the survey participants responded affirmatively. This was the highest rated measure of success in the study, though business satisfaction and/or interest were also rated relatively high.

The concept of marketing can differ greatly among firms. Product/service types, market location, consumer preference, and many other factors, will determine greatly marketing strategies and success. A large majority of the young adults that participated in the study believe radio and social media outlets (e.g. Facebook, WhatsApp, Twitter) are efficient means of marketing. In recent years, with communication capability and accessibility greatly improving in rural areas, many enterprises appear to be looking to social media outlets as an affordable means of effective marketing. Although not typically the case with most farms that market commodities, farmers that market their products through direct-sales outlets may also find social media as a marketing option.

Risk is a factor that all businesses face at varying degrees. Being willing to take on risk was perceived as an important factor to survey participants for business success, with 79% rating willing to take on risk as important to extremely important. Willingness

to take risk can also be a common factor discouraging firm operators' adoption of new technologies and improved practices. Risk can be defined in several categories such as strategic risk, compliance risk, operational risk, financial risk, and reputation risk (Blackman, 2014). In this study, a higher percentage of survey respondents rated price/cost as a major obstacle to the adoption of new technology, being followed by knowledge/training, perceived risk, and, the least, time. This perception appears consistent with many of the identified factors of business success discussed in current literature.

Business administration and management skills are commonly listed as factors that contribute to the overall success of any operation. Many of these factors appear to be recognized and perceived by would-be entrepreneurs as key abilities. Management skills such as leadership, communication, strategic-planning, marketing, employee management, and financial management were perceived by at least 81% of the survey respondents as being important to extremely important. The concept of networking is relatively new in many areas of developing countries, though some do recognize its value. Only 56% of respondents reported networking as being important to extremely important, which is significantly less than the other skills included in the survey. There is reason to believe that a true understanding of the term is not comprehended by many in rural areas.

Of the four personality types presented, driver was perceived as describing successful firm operators best, with 46% responding accordingly (see Figure 7). Analytical personality types were perceived by 27% as describing successful firm operators, followed by amiable and expressive at 17 % and 7% respectively.

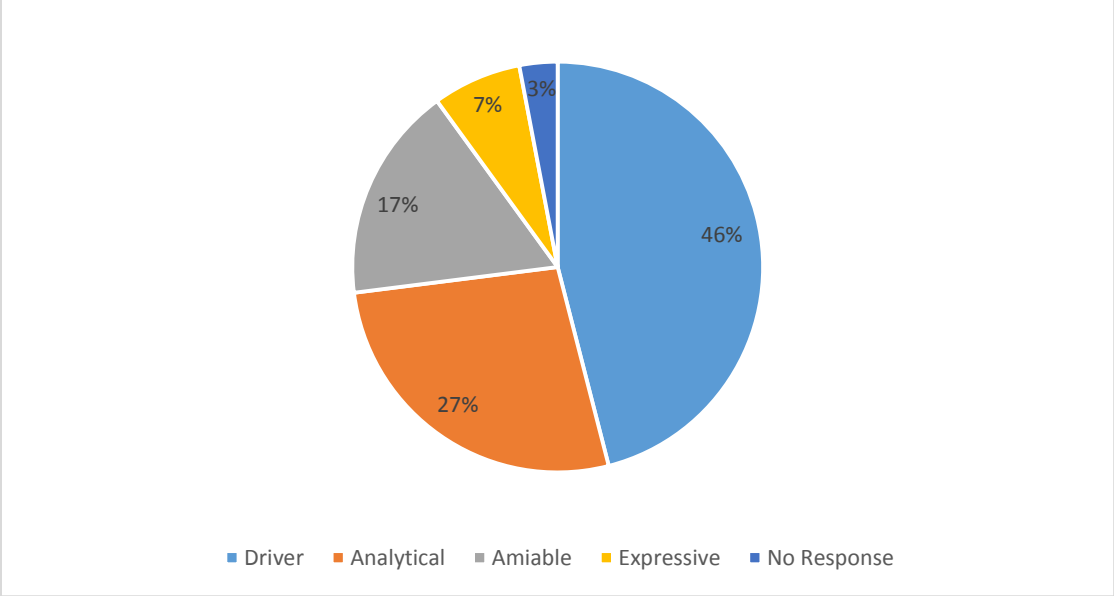

Figure 7. Combined Survey Responses to Perceived Personality Type of Successful Businessmen or Farmers

All economic activities presented in the surveys were rated as being important to extremely important by at least 77% of the survey respondents. Such activities varied from obtaining financing, expanding markets, product promotion, improving revenue, controlling costs, customer service, acquiring land/locality, business planning, and employee management. Controlling costs was ranked the highest amongst these activities, with 92% of respondents answering accordingly. Similarly, many management tools also appear to be recognized for their value and contribution to success. A high percentage of respondents reported having a production plan as an important to extremely important management tool. In contrast, production planning, vision statements and marketing plans were ranked less important by many respondents.

There are many factors that tend to have varying levels of correlation with business success; a high percentage of respondents perceived five factors with having a strong correlation to business success: years of experience, primary occupation, years of

formal education, firm size, and product diversity (see Figure 8). A similarly large portion of respondents rated five factors with weak correlation to business success: family size, spouse participation, inheriting business, percentage of assets held by loans, number of family members involved in business (see Figure 9). Interestingly, a number of factors that deal with family size, participation and dynamic were rated as having less of a correlation to business success. With the large number of the survey respondents being young and single, perhaps this perception may differ from older generations.

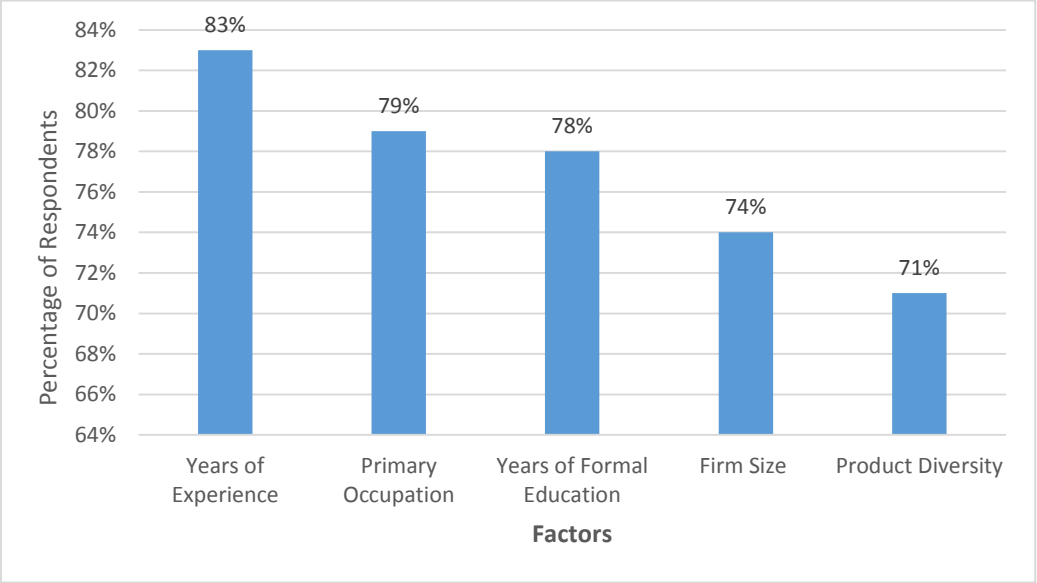

Figure 8. Combined Survey Responses - Perceived Factors that Strongly Correlate to Successful Businessmen or Farmers

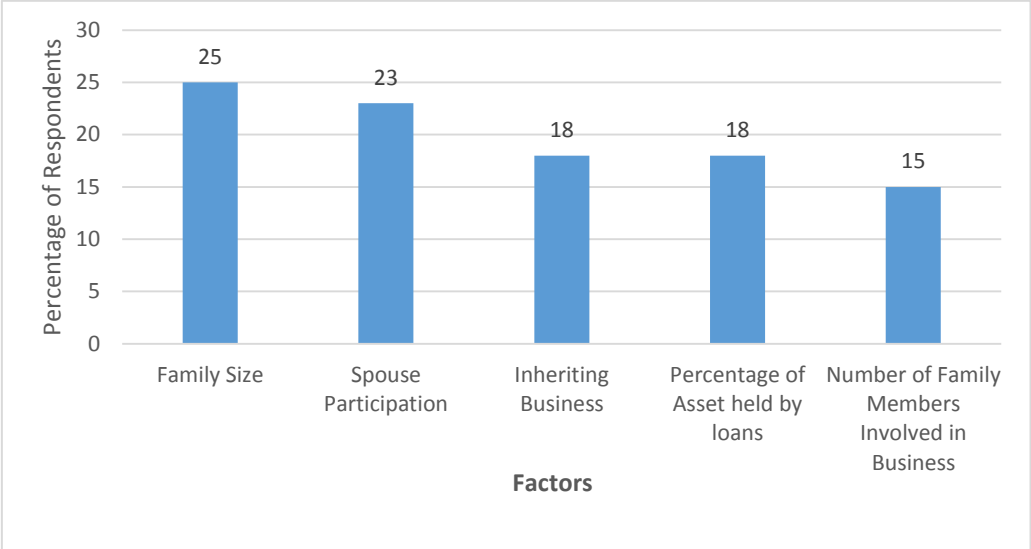

Figure 9. Combined Survey Responses to Perceived Factors that Weakly Correlate to Successful Businessmen or Farmers

Many family enterprises provide youth and children with exposure and experience to business operations at an early age. Perceptions and an understanding of the different roles and dimensions of a business may be understood differently depending on business experience or exposure. 61% of the survey respondents come from family businesses or farm operations (see Figure 10). This is an important factor to consider when evaluating this data throughout the study.

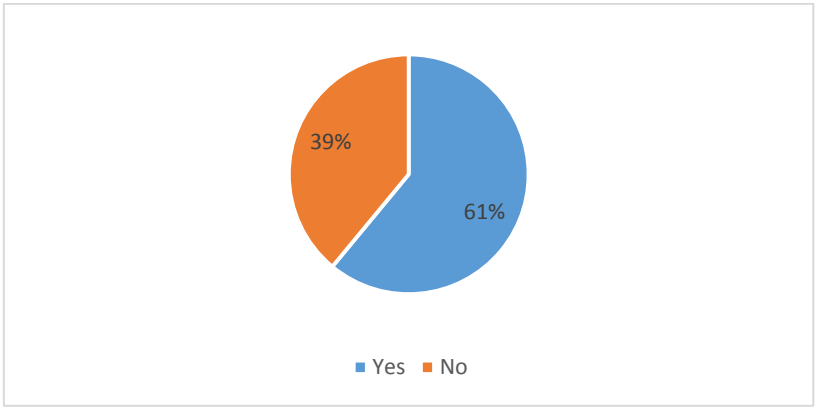

Figure 10. Combined Survey Responses of Respondents that Come From a Family Firm or Not

Comparison

The two groups targeted for this research were young would-be entrepreneurs interested in small business, and young agriculture students interested in production agriculture and agribusiness. There are similarities amongst the two groups, but also differences that can provide interesting insight when discussing rural development. Mean comparison test-statistics were used to compare the observations from each of the surveys. This analysis provides a better understanding of the two groups, their respondents' demographics and their perceptions of success. This section explores the findings for these two groups. Results from the test-statistics analysis can be found in Table 2.

Entrepreneurs vs. Agricultural Producers

Mean test-statistics show that very little variation in age, occupations and future employment plans exists between the two surveyed groups. Whereas both groups have a high percentage of current students, the small-business group has a higher percentage of

individuals that are currently working in the public, private, self-employed and family-business sectors. This difference may be explained by the opportunities for employment that are more readily available in more urbanized areas in comparison to the more rural and remote areas that are typical of most farm and ranch operations. Additionally, many agriculture students attend boarding schools Monday through Friday, with limited opportunities to seek part-time employment due to the schools' campus being located in areas that are more isolated. Returning home to work on farming operations typically does not happen until the weekends, and only if transportation can be arranged.

The small-farm group has a larger percentage of at least five people in their immediate family that was shown to be statistically significant. In contrast, the majority of the small-business group reported having four people or less. Rural families tend to employ more family members in their farming operations (World Bank, 2010), which might explain the tendency of larger families in the small-farm group. More respondents from the small-business group have a higher education-level than the small-farm group, with over 60 % at least having received some college education, if not also a degree or certificate. Less than half of the small-farm group reported similarly. Gender also differed between the two groups with over 78% of the small-farm group being males, and 67% of the small-business group being females. The employment structure in Paraguay's urban areas has increased for higher-skilled workers that are females (World Bank, 2010), thus providing more opportunities for those females that receive some kind of technical training or college education.

It was found that the small-farm group had more respondents that had at least some to high-levels of experience in the area of agriculture, with slightly over half of the

respondents for the small-business group reporting similar levels of experience in business. Although the amount of past experience and education differs between the two groups, the interest in working for and/or having one's own business in the future is very high in both. This is consistent with national statistics that show an increased percentage of Paraguayan workers employed as entrepreneurs and wage earners (World Bank, 2010). A mere 6% of total survey participants in this study reported having no interest in owning their own business in the future.

Table 2. Test-Statistics of the Difference in Means
Small-Business and Small-Farm Groups

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
Age	*Age of survey participant;* 1= *Under 20* 2= *21-25* 3= *26-30* 4= *31-35* 5= *Over 36*	2.402299	1.956522	2.1653**
Gender	*Gender of survey participant;* 1=*Female*, 0=*Male*	.6666667	.2173913	6.7322***
FamMems	*Number of family members in household;* 1= *1-2* 2= *3-4* 3= *5-6* 4= *7-more*	2.511628	2.788889	-2.1453**
EdLevel	*Education level of participant;* 1= *Some Elementary* 2= *Finished Elementary* 3= *Some Secondary Ed.* 4= *Finished Secondary Ed.* 5= *Some College* 6= *Postsecondary Degree* 7= *Graduate Degree*	4.72093	4.087912	2.6726***

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
EdTypeBizAdmin	*Participant studied business administration or economics;* 1= *Studied Business Admin.*, 0= *Otherwise*	.1034483	.0217391	2.2557**
EdTypeAgVet	*Participant studied agriculture or veterinary science* 1= *Studied Agriculture/Vet. Sci.*, 0= *Otherwise*	.0229885	.3913043	-6.8648***
EdTypeAcctFinc	*Participant studied accounting or finance;* 1= *Studied Accounting/Finance*, 0= *Otherwise*	.0804598	.0217391	1.7753*
EdTypeCompIT	*Participant studied computer science or IT;* 1= *Studied Computer Science or IT*, 0= *Otherwise*	.0344828	.0108696	1.0505
EdTypeOther	*Participant studied another subject besides those listed;* 1=*Studied Other Subject*, 0= *Otherwise*	.3218391	.0326087	5.3852***
OccupationStudentNone	*Currently a student and /or not employed;* 1=*Student and/or Not Employed*, 0= *Otherwise*	.3218391	.6195652	-4.1576***
OccupationPublicSec	*Currently employed in the public sector;* 1=*Employed in Public Sector*, 0= *Otherwise*	.1264368	.0978261	0.6026
OccupationPrivateSec	*Currently employed in the private sector;* 1=*Employed in Private Sector*, 0= *Otherwise*	.0804598	.0652174	0.3896
OccupationSelfEmpl	*Currently self-;* 1=*Self Employed,* 0= *Otherwise*	.2413793	.0513478	3.6034***

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
OccupationFamilyBiz	*Currently employed by family business;* 1=*Employed by Family Business,* 0= *Otherwise*	.1264368	.076087	1.1102
FuturePlansPublicSec	*Participant plans to work in the public sector in the future;* 1= *Plans to Work in the Public Sector in the Future,* 0= *Otherwise*	.1724138	.173913	-0.0263
FuturePlansSelfEmp	*Participant plans to be self-employed in the future;* 1= *Plans to be Self-Employed in the Future,* 0= *Otherwise*	.1954023	.1304348	1.1717
FuturePlansFamilyBiz	*Participant plans to work for the family business in the future;* 1= *Plans to Work in Family Business in the Future,* 0= *Otherwise*	.2873563	.3152174	-0.4041
FamilyBiz	*Participant comes from a family with a business;* 1=*Family Has a Business,* 0= *Otherwise*	.4651163	.75	-4.0340***
ExperienceLevel	*Participant's experience level with business /farm;* 1= *No Experience* 2= *Little Experience* 3= *Unsure* 4= *Some Experience* 5= *High Level of Experience*	2.976744	3.736264	-4.4026***
IntLevel	*Participant has interest in working for, or having their own business;* 1= *Has interest in working for, or having own business* 0= *Otherwise*	.965116	.911111	1.4944

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
BarrCapital	*Participant's perception of capital as a barrier to entry;* 1= *Not a Barrier* 2= *Small Barrier* 3= *Unsure* 4= *Medium Barrier* 5= *Large Barrier*	4.241379	4.076923	1.0191
BarrExpEd	*Participant's perception of experience and Education as a barrier to entry;* 1= *Not a Barrier* 2= *Small Barrier* 3= *Unsure* 4= *Medium Barrier* 5= *Large Barrier*	3.045977	3.142857	-0.4558
BarrCompetion	*Participant's perception of competition as a barrier to entry;* 1= *Not a Barrier* 2= *Small Barrier* 3= *Unsure* 4= *Medium Barrier* 5= *Large Barrier*	3.430233	3.758242	-1.8173*
BarrLandLocal	*Participant's perception of land/locality as a barrier to entry;* 1= *Not a Barrier* 2= *Small Barrier* 3= *Unsure* 4= *Medium Barrier* 5= *Large Barrier*	3.068966	3.714286	-3.2636***
BarrInterest	*Participant's perception of interest/commitment as a barrier to entry;* 1= *Not a Barrier* 2= *Small Barrier* 3= *Unsure* 4= *Medium Barrier* 5= *Large Barrier*	2.735632	2.604396	0.5953

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
BarrRisk	*Participant's perception of risk as a barrier to entry;* 1= *Not a Barrier* 2= *Small Barrier* 3= *Unsure* 4= *Medium Barrier* 5= *Large Barrier*	3	3.274725	1.7376*
BarrUnsPrice	*Participant's perception of unstable prices as a barrier to entry;* 1= *Not a Barrier* 2= *Small Barrier* 3= *Unsure* 4= *Medium Barrier* 5= *Large Barrier*	3.255814	3.613636	-2.0171**
MTMuniMarket	*Participant's perception of a better price offered to producers/retailors in a municipal market;* 1= *Yes*, 0= *Otherwise*	.2183908	.3369565	-1.7794*
MTFarmMarket	*Participant's perception of a better price offered to producers/retailors in a farmers' market;* 1= *Yes*, 0= *Otherwise*	.0689655	.4130435	-5.8916***
MTWholesale	*Participant's perception of a better price offered to producers/retailors in a wholesale market;* 1= *Yes*, 0= *Otherwise*	.2528736	.4021739	-2.1463**
MTPContract	*Participant's perception of a better price offered to producers/retailors in private contracts;* 1= *Yes*, 0= *Otherwise*	. 0804598	.2282609	-2.7951***
PromoFB	*Participant's perception of Social Media as an effective promotion strategy;* 1= *Yes*, 0= *Otherwise*	.7356322	.4347826	4.2710***

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
PromoFlyers	*Participant's perception of flyers as an effective promotion strategy;* 1= *Yes*, 0= *Otherwise*	.3333333	.2173913	1.7373*
PromoCoupons	*Participant's perception of coupons as an effective promotion strategy;* 1= *Yes*, 0= *Otherwise*	.3908046	.25	2.0263**
PromoNewspaper	*Participant's perception of the newspaper as an effective promotion strategy;* 1= *Yes*, 0= *Otherwise*	.1609195	.3043478	-2.2977**
SkillLeadership	*Participant's perception of leadership and its level of importance for an operation's leadership team;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	4.356322	4.122222	1.7717*
SkillMarketing	*Participant's perception of marketing and its level of importance for an operation's leadership team;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	*4.264368*	*4.022472*	*1.8984**
SkillNetworking	Participant's perception of networking and its level of importance for an operation's leadership team; 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	3.816092	3.511111	2.3069**

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
SkillEmplMang	*Participant's perception of employee management and its level of importance for an operation's leadership team;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	4.310345	4.377778	-0.6064
RiskWillingness	*Participant's perception of the importance of a business owner's willingness to take risk;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	3.930233	3.967033	-0.3038
ActExpandMrt	*Participant's perception of expanding market activities and its level of importance for a business/farm operation;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	4.127907	4.318681	-1.7415*
ActPromotion	*Participant's perception of promotion activities and its level of importance for a business/farm operation;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	4.4	3.857143	4.4369***

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
ActAquirerL	*Participant's perception of acquiring land/locality activities and its level of importance for a business/farm operation;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	3.755814	4.230769	-3.5765***
ToolBPlan	*Participant's perception of business plans and their level of importance as a tool for a business/farm operation;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	4.546512	4.450549	1.0106
ToolMPlan	*Participant's perception of marketing plans and their level of importance as a tool for a business/farm operation;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	4.313953	4.120879	1.7171*
ToolPPlan	*Participant's perception of production plans and their level of importance as a tool for a business/farm operation;* 1= *Not Important* 2= *Mostly Unimportant* 3= *Unsure* 4= *Important* 5= *Extremely Important*	4.406977	4.604396	-2.1556**

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	Description	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
CorrReClients	*Participant's perception of the level of correlation between repeat clients and business/farm success;* 1= *No Correlation* 2= *Little Correlation* 3= *Unsure* 4= *Partial Correlation* 5= *Direct Correlation*	4.094118	3.677778	2.7611***
CorrSizeOp	*Participant's perception of the level of correlation between the size of the operation and business/farm success;* 1= *No Correlation* 2= *Little Correlation* 3= *Unsure* 4= *Partial Correlation* 5= *Direct Correlation*	3.857143	4.188889	2.1234**
CorrDebt	*Participant's perception of the level of correlation between the percentage of assets held in debt and business/farm success;* 1= *No Correlation* 2= *Little Correlation* 3= *Unsure* 4= *Partial Correlation* 5= *Direct Correlation*	3.705882	3.411111	1.7018*

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 2. Continued

Variable	*Description*	Small-Biz Survey Mean	Small-Farm Survey Mean	T-Test Comparison
CorrDivProd	*Participant's perception of the level of correlation between diversified products and business/farm success;* 1= *No Correlation* 2= *Little Correlation* 3= *Unsure* 4= *Partial Correlation* 5= *Direct Correlation*	4.305882	3.811111	3.2305***
CorrBizStru	*Participant's perception of the level of correlation between the business structure and business/farm success;* 1= *No Correlation* 2= *Little Correlation* 3= *Unsure* 4= *Partial Correlation* 5= *Direct Correlation*	4.270588	3.719101	3.3679***
PTAnalytical	*Participant believes that an analytical personality type is highly characteristic of a successful business/farm owner;* 1= *Yes*, 0= *Otherwise*	.1954023	.3369565	-2.1629**
PTDriver	*Participant believes that a driver personality type is highly characteristic of a successful business/farm owner;* 1= *Yes*, 0= *Otherwise*	.5517241	.3695652	-2.4706**
PTAmiable	*Participant believes that an amiable personality type is highly characteristic of a successful business/farm owner;* 1= *Yes*, 0= *Otherwise*	.1149425	.2173913	-1.8543*

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Factors of Success

Over the years, scholarship has identified many factors that influence business and farm operation success. Studies show many similarities of success factors between the agriculture and nonagriculture sectors; however, little research has been done on the perceptions of young, would-be entrepreneurs and how those perceptions might differ between the agriculture and nonagriculture groups. Though perceptions can be difficult to measure, the results of this study suggest certain commonalities and differences in the two groups.

When asked about perceived barriers-to-entry, a significant difference was noted in the test-statistic between the small-business and small-farm groups in the areas of competition, land/locality, risk and unstable prices. The group means in each of these areas were higher for the small-farm survey participants. The test-statistics showed no significant difference in the perception of capital, experience/education, and interest/commitment between the two groups.

Many marketing venues and options were presented in each survey asking which was perceived to offer improved prices for producers and retailors. No significant differences in means were found in most of these options, with the exception of municipal markets, farmers' markets, wholesale markets, and private contracts. These four market options were found to have a test-statistic that was significant, with the small-farm group having larger mean values. With many farmers and ranchers in Paraguay producing commodities, cash crops and beef cattle (Cardozo, 2012), such differences in perceptions in market options between the two groups can be anticipated.

When asked about different promotion strategies, some differences in perceptions were found between the two groups. Using social media venues, flyers and coupons were found to have higher mean values in the small-business group. This could be anticipated with many small businesses offering products/goods and services that can be easily marketed to their consumers by these venue options. Effective promotion by newspaper had a higher mean value from the small-farm group.

There are many managerial skills that have been found to be important to business success (Markman & Baron, 2003). Participants in this study were asked about their perceptions of such management skills by ranking a number of characteristics important to an operation's leadership team. Differences were noted with the perception of leadership, marketing and networking skills between the two groups.

Personality types and willingness to take risks are also factors commonly studied when analyzing business and organization. Research suggests that different personalities tend to be more willing to try new ventures and take risks (Caliendo & Kritikos, 2008), while others seem more hesitant and cautious of the idea (D'Intino, Goldsby, Houghton, & Neck, 2007). This study showed no significant difference between the two groups regarding their perception of the importance of a business owner's willingness to take risk. A significant difference in the mean values was found in the perception of each group with regards to personality types of successful business owners. The small business group's mean was significantly higher in the perception of a driver personality type for a successful business owner compared to the small-farm group. The small-farm group had larger mean values for both analytical and amiable personality types.

Certain business and farm activities can improve the efficiency and quality of operations (Pendell, Johnson, Pritchett, Thilmany, & Seitzinger, 2011). Most of the activities, besides expanding markets, promotion and acquiring land/locality, presented to respondents in this study were found to have no significant differences in means between the two groups. Three activities that were found to have significant difference in mean were expanding markets, promotion and acquiring land/localities, with the small-business group having a larger mean value for promotion activities, and the small-farm group having a larger mean value for acquiring land/localities activities.

A number of studies have suggested that controlling costs and keeping fixed costs low are crucial for an enterprise's success (Lussier, 1995). As business and farm owners start or expand their enterprises, many have to purchase large assets on credit. The perception of the level of correlation between the percentage of assets held in debt and business/farm success was also analyzed in this study, and was found to be significantly different between the two groups. A large portion of the small-business group perceived this factor as having a larger correlation. The same was true with two more perceptions of the level of correlation between diversified products and business structure and business/farm success. It appears that these factors are perceived to have more correlation by nonagriculture groups in comparison to agriculture groups. The size of the operation and the perception of repeat clients with regards to their correlation to business success were also significantly different between the two groups. Years of experience, the enterprise as one's primary occupation, percentage of spouse involvement, and the adoption of new technologies, among others, were found to have no significant difference between the two groups.

CHAPTER 3

MODELING AND ANALYSIS

To gain a better understanding of how young would-be entrepreneurs and agriculture students perceive barriers to business/farm entry, survey observations from each study group (small-business and small-farm) were combined into one dataset for further analysis. The complete dataset is made up of variables that describe the characteristics and demographics of the combined 179 observations, and the perceptions of factors that influence business/operation success. This chapter will describe the modeling processes and analyses used in this study to examine the different elements that influence perceptions of business success and entry.

Dependent Variables

There are common problems and barriers that discourage entry to business worldwide. Studies show that similar to other parts of the world, many Latin American countries face hurdles to business entry, ranging from access to land, capital, education, and markets, among many others (Busch, 1989). In this study, the respondents' perceptions of different barriers-to-entry are used as the dependent variables.

In preliminary analysis, responses to questions about perceived barrier levels of different factors (access to capital, experience and education, competition, access to land/locality, interest and commitment, perceived risk, price volatility) were averaged together to create a single hurdle value. Each barrier factor is assumed to have an equal level of importance as any of the other barrier factors as they are averaged together. The

value of this barrier average would be used to create a hurdle score for each observation in the dataset.

The hurdle variable represents a respondent's overall perceived barrier-to-entry. The variable *Hurdle* is the continuous average of the responses to the questions regarding perceived barriers to entry. This variable is used as the dependent variable for regression analysis. The variable *HurdleAve* is the rounded average of the same perceived barrier's responses. Values from the "*Hurdle*" variable were simply rounded to the nearest integer to create the *HurdleAve* variable. *HurdleAve* values vary from 1 to 5, with 1 representing a low perceived hurdle/barrier to business or farm entry, and 5 representing a high perceived hurdle/barrier to business or farm entry. The variable *HurdelAve* is used as the dependent variable in the ordered logit analysis. Each independent barrier variable was ranked by survey participants according to the perceived level or size of barrier that it represented to business entry—1 representing no barrier and 5 representing a large barrier. These variables are also used in the ordered logit analysis. A description of each dependent variable can be found in Table 3.

Table 3. Descriptive Statistics for Dependent Variables

Variable	*Description*	Mean	SD	Min	Max
BarrCapital	*Perceived level of Capital as a barrier to business/farm entry;* 1= *No Barrier* 2= *Small Barrier* 3= *Unsure Barrier* 4= *Medium Barrier* 5= *Large Barrier*	4.157303	1.077755	1	5

Table 3. Continued

Variable	*Description*	Mean	SD	Min	Max
BarrExpEd	*Perceived level of Experience and Education as a barrier to business/ farm entry;* 1= *No Barrier* 2= *Small Barrier* 3= *Unsure Barrier* 4= *Medium Barrier* 5= *Large Barrier*	3.905506	1.412967	1	5
BarrCompetition	*Perceived level of Competition as a barrier to business/farm entry;* 1= *No Barrier* 2= *Small Barrier* 3= *Unsure Barrier* 4= *Medium Barrier* 5= *Large Barrier*	3.59887	1.207269	1	5
BarrLandLocal	*Perceived level of Access to Land/ Locality as a barrier to business/ farm entry;* 1= *No Barrier* 2= *Small Barrier* 3= *Unsure Barrier* 4= *Medium Barrier* 5= *Large Barrier*	3.398876	1.350204	1	5
BarrInterest	*Perceived level of Interest and Commitment as a barrier to business/ farm entry;* 1= *No Barrier* 2= *Small Barrier* 3= *Unsure Barrier* 4= *Medium Barrier* 5= Large Barrier	2.668539	1.464155	1	5
BarrRisk	*Perceived level of Risk as a barrier to business/farm entry;* 1= *No Barrier* 2= *Small Barrier* 3= *Unsure Barrier* 4= *Medium Barrier* 5= *Large Barrier*	3.141243	1.059237	1	5

Table 3. Continued

Variable	*Description*	Mean	SD	Min	Max
BarrUnsPrice	*Perceived level of Price Volatility as a barrier to business/farm entry;* 1= *No Barrier* 2= *Small Barrier* 3= *Unsure Barrier* 4= *Medium Barrier* 5= *Large Barrier*	3.436782	1.179803	1	5
Hurdle	*Responses of the perceived levels of barrier-to-entry averaged together and left in their continuous value form. Values range from 1-5, with 1 representing a low perceived barrier/hurdle to business/farm entry, and 5 representing a high perceived barrier/hurdle to business entry.*	3.357758	.717992	1.286	4.714
HurdleAve	*Responses of the perceived levels of barrier-to-entry averaged together and are rounded to the nearest integer;* 1= *No Perceived Barrier* 2= *Small Perceived Barrier* 3= *Unsure* 4= *Medium Perceived Barrier* 5= *Large Perceived Barrier*	3.342697	.7582886	1	5

Variable Set 1

Taking into consideration the demographics of the observations, Variable Set 1 focuses on the impact of characteristics, experience, education and background of the survey respondents and their perceived hurdles to business and farm entry. Yusuf (1995) found in his study of perceptions of operation success factors in business in the South Pacific that there was a significant difference in perceptions of the importance of

education and experience between more formally educated people and less educated people. Hussain and Yaqub (2010) found many micro-entrepreneurs are motivated by independence and the idea of self-employment. Many economic factors were also found to be large motivators. Based on literature, it is hypothesized that in this study there will be a positive correlation between the demographic, experience, education and occupation variables listed in Table 4 and the dependent variables.

Table 4. Variable Set 1 - Demographics - Descriptive Statistics for Explanatory Variables

Variable	*Description*	Mean	SD	Min	Max
Age	1= *Under 20* 2= *21-25* 3= *26-30* 4= *31-35* 5= *Over 36*	2.173184	1.389429	1	5
Gender	1=*Male*, 0=*Female*	.5642458	.4972462	0	1
EducationLevel	1= *Some Elementary* 2= *Finished Elementary* 3= *Some Secondary Ed.* 4= *Finished Secondary Ed.* 5= *Some College* 6= *Postsecondary Degree* 7= *Graduate Degree*	4.39548	1.610188	1	7
EdTypeBizAdmin	1=*Studied Business Admin.*, 0= *Otherwise*	.0614525	.248322	0	1
EdTypeAgVet	1=*Studied Agriculture/Vet. Sci.*, 0= *Otherwise*	.2122905	.4100765	0	1
EdTypeAcctFinc	1=*Studied Accounting/Finance*, 0=*Otherwise*	.0502793	.2191337	0	1
EdTypeCompIT	1=*Studied Computer or IT*, 0=*Otherwise*	.0223464	.1482219	0	1
OccupationStudentNone	1=*Student or Not Employed*, 0= *Otherwise*	.4748603	.5007684	0	1

Table 4. Continued

Variable	*Description*	Mean	SD	Min	Max
OccupationPublicSec	1=*Employed in Public Sector,* 0= *Otherwise*	.1117318	.3159199	0	1
OccupationPrivateSec	1=*Employed in Private Sector*, 0= *Otherwise*	.0726257	.2602491	0	1
OccupationSelfEmplFamBiz	1=*Self Employed or Employed by Family Biz,* 0= *Otherwise*	.2458101	.4317742	0	1
FuturePlansPublicSec	1= *Plans to Work in the Public Sector in the Future,* 0= *Otherwise*	.1731844	.379468	0	1
FuturePlansSelfEmp	1= *Plans to be Self-Employed or Working in/on Family Biz/Farm in the Future,* 0= *Otherwise*	.4636872	.5000785	0	1
FuturePlansPrivateSec	1= *Plans to Work in the Private Sector in the Future,* 0= *Otherwise*	.1731844	.379468	0	1
FamilyBiz	1=*Family Has a Business/Farm*, 0= *Otherwise*	.6123596	.4885862	0	1
ExperienceLevel	1= *No Experience* 2= *Little Experience* 3= *Unsure* 4= *Some Experience* 5= *High Level of Experience*	3.367232	1.199266	1	5

Ordered logit analysis was selected first for examination of Variable Set 1 with the *HurdleAve* variable as the dependent variable. The values for the *HurdleAve* variable are explained in Table 3, and are ordinal in nature. A higher value corresponds to a higher/larger perceived hurdle or barrier to business or farm entry. The ordered logit model assumes that the basic tendency to perceive hurdles to business or farm entry is

governed by an unobserved variable that is a linear function of those variables listed in Table 4.

$$y^* = X' \beta_1 Gender_j + \beta_2 EducationLevel_j + \beta_3 EdTypeBizAdmin_j + \beta_4 EdTypeAgVet_j + \beta_5 EdTypeAcctFinc_j + \beta_6 EdTypeCompIT_j + \beta_7 OccupationStudentNone_j + \beta_8 OccuptationPublicSec_j + \beta_9 OccupationPrivateSec_j + \beta_{10} OccupationSelfEmplFamBiz_j + \beta_{11} FuturePlansPublicSec_j + \beta_{12} FuturePlansSelfEmp_j + \beta_{13} FuturePlansPrivateSec_j + \beta_{14} FamilyBiz_j + \beta_{15} ExperienceLevel_j + e$$

Where y^* represents the unobserved tendency to perceive hurdles/barriers to business or farm entry, X is the vector of observed variables, and β_i is a vector of the estimated coefficients. It is assumed that the error term follows a logistic distribution and assigns the following categories of response for y:

$$y \begin{cases} 1 \text{ if } y* \leq \mu^1, \\ 2 \text{ if } \mu^1 < y* \leq \mu^2, \\ 3 \text{ if } \mu^2 < y* \leq \mu^3, \\ 4 \text{ if } \mu^3 < y* \leq \mu^4, \\ 5 \text{ if } \mu^4 \leq y* \end{cases}$$

The μ^i are cutoff parameters to be estimated and *y* takes on the value of 1 for "no perceived barrier," a value of 2 for "small perceived barrier," a value of 3 for "unsure," a value of 4 for "medium perceived barrier," and a value of 5 for "large perceived barrier." The coefficients and cutoff values can be estimated via maximum likelihood with these assumptions.

Results of this analysis were largely insignificant, with a low Pseudo R square value and unimportant test-statistic values. Little information can be taken from these findings, which leads to exploration of a new analysis. A linear regression model was attempted for the second analysis of the demographic variables; however, little explanatory improvement was achieved by this second analysis. Two variables (EducationLevel and EdTypeAgVet) resulted in having two test-statistics with significant values; nonetheless, the regression analysis was a poor fit.

$$Hurdle_i = \beta_1 Gender_{j1} + \beta_2 EducationLevel_{j2} + \beta_3 EdTypeBizAdmin_{j3} + \beta_4 EdTypeAgVet_{j4} + \beta_5 EdTypeAcctFinc_{j5} + \beta_6 EdTypeCompIT_{j6} + \beta_7 OccupationStudentNone_{j7} + \beta_8 OccuptationPublicSec_{j8} + \beta_9 OccupationPrivateSec_{j9} + \beta_{10} OccupationSelfEmplFamBiz_{j10} + \beta_{11} FuturePlansPublicSec_{j11} + \beta_{12} FuturePlansSelfEmp_{j12} + \beta_{13} FuturePlansPrivateSec_{j13} + \beta_{14} FamilyBiz_{j14} + \beta_{15} ExperienceLevel_{j15} + e_i = x_i^T \beta + e_{i,} \qquad i = 1, ., ., ., n$$

Where *T* denotes the transpose, resulting in the $x_i^T \beta$ being the inner product between vectors x_i and β.

For the final analysis of Variable Set 1, it was determined to return to the ordered logit, with a change to the dependent variable. Instead of using the *Hurdle* and *HurdleAve* variables as the dependent variable for the analysis, each barrier variable (i.e. *BarrCapital, BarrExpEd, BarrCompetition, BarrLandLocal, BarrInterest, BarrRisk, BarrUnsPrice*) would be used individually as the dependent variable in separate analyses (see Table 3). Results of each analysis would be collected and placed in a table for easy comparison and study.

$$y^* = X' \beta_1 LocalStores_j + \beta_2 DirectToConsumerl_j + \beta_3 Wholesale_j + \beta_4 NewMethods_j + \beta_5 TraditionalMethods_j + \beta_6 SuccessFinancial_j + \beta_7 RiskWillingness_j + \beta_8 LeadershipSkills_j + \beta_9 CommunicationSkills_j + \beta_{10} PersonalityDriver_j + \beta_{11} FinanceBusinessManagement_j + \beta_{12} MarketingActivities_j + \beta_{13} ManagementTools_j + \beta_{14} CostsNewTech_j + \beta_{15} KnowledgeNewTech_j + \beta_{15} ExperienceCorrelation_j + \beta_{15} SizeCorrelation_j + \beta_{15} FinanceCorrelation_j + \beta_{15} MarketCorrelation_j + e$$

Where y^* represents the unobserved tendency to perceive barriers to business/farm entry, X is the vector of observed variables, and β is a vector of the estimated coefficients. Once again, it is assumed that the error term follows a logistic distribution and assigns the following categories of response for y:

$$y\begin{cases} 1 \text{ if } y* \leq \mu^1, \\ 2 \text{ if } \mu^1 < y* \leq \mu^2, \\ 3 \text{ if } \mu^2 < y* \leq \mu^3, \\ 4 \text{ if } \mu^3 < y* \leq \mu^4, \\ 5 \text{ if } \mu^4 \leq y* \end{cases}$$

The μ^i are cutoff parameters to be estimated and *y* takes on the value of 1 for "no perceived barrier," a value of 2 for "small perceived barrier," a value of 3 for "unsure," a value of 4 for "medium perceived barrier," and a value of 5 for "large perceived barrier."

Variable Set 2

With consideration of sensitivities and views of different elements and activities that might contribute to business success, Variable Set 2 explores the relationship between perceptions of survey respondents and their perceived hurdles to business and farm entry. Previous studies have shown that customer service, industry-specific expertise and personality types are common factors perceived in successful business operations (Hussain & Safar Yaqub, 2010). It is hypothesized that there will also be a positive correlation between the perception of such factors and perceived barriers-to-entry (see Table 5).

Table 5. Variable Set 2 - Perceptions - Descriptive Statistics for Explanatory Variables

Variable	*Description*	Mean	SD	Min	Max
LocalStores		0.3854749	0.4880725	0	1
	1=*Perceives Local Stores & Municipal Markets offering an improved price* 0= *Otherwise*				
DirectToConsumer		.3519553	.4789198	0	1
	1=*Perceives Direct-to-Consumer Markets (Farmers' Markets & Road Stands) offering an improved price* 0= *Otherwise*				
Wholesale		.4469274	.4985699	0	1
	1=*Perceives Wholesale/Commercial/ Private Contracts offering an improved price* 0= *Otherwise*				
NewMethods		.7094972	.4552679	0	1
	1= *Perceives Internet/Social Media promotion as an effective marketing strategy* 0= *Otherwise*				
TraditionalMethods		.8268156	.379468	0	1
	1= *Perceives Traditional Methods such as Radio and Print Advertisement promotion as an effective marketing strategy* 0= *Otherwise*				
SuccessFinancial		.7039106	.4578155	0	1
	1=*Considers Financial Measure of Success (Profit/Income)* 0=*Otherwise*				
RiskWillingness		3.949153	.8067273	1	5
	1= *Not Important* 2= *Little Importance* 3= *Unsure* 4= *Important* 5= *Highly Important*				
LeadershipSkills		4.328625	.58709	2	5
	Level of Importance Averaged for Leadership, Strategic Management, Employee Management, & Financial Analysis Skills; *1 representing a low level of importance,* *5 representing a high level of importance.*				
CommunicationSkills		4.028249	.6374907	1.333	5
	Level of Importance Averaged for Communication, Marketing & Networking Skills; *1 representing a low level of importance,* *5 representing a high level of importance.*				

Table 5. Continued

Variable	*Description*	Mean	SD	Min	Max
PersonalityDriver		.4581006	.4996389	0	1
	1=*Driver Personality Type Business Owner* 0=*Otherwise*				
FinanceBusinessManagement		4.232015	.4647194	2.333	5
	Level of Importance Averaged for Obtaining Financing, Improving Profitability, Controlling Costs, Acquiring Land or Locality, Conducting Business Planning, & Managing Employees; *1 representing a low level of importance,* *5 representing a high level of importance.*				
MarketingActivities		4.185499	.5490091	1.5	5
	Level of Importance Averaged for Expanding Markets, Effective Marketing, & Providing Customer Service; *1 representing a low level of importance,* *5 representing a high level of importance.*				
ManagementTools		4.430791	.5138131	2	5
	Level of Importance Averaged for using Business Plans, Marketing Plans, Production Plans, & Financial Plans; *1 representing a low level of importance,* *5 representing a high level of importance.*				
CostsNewTech		.7430168	.4381958	0	1
	1= *Perceives Costs (time & expense) as major deterrent from adopting new technologies* 0= *Otherwise*				
KnowledgeNewTech		.6201117	.4867203	0	1
	1= *Perceives Knowledge and Risk as major deterrents from adopting new technologies* 0= *Otherwise*				
ExperienceCorrelation		4.177966	.7276973	1	5
	Level of Correlation Averaged for Years of Experience, Primary Occupation, and Years of Formal Education; *1 representing a low level of correlation,* *5 representing a high level of correlation.*				
SizeCorrelation		3.702857	.7841571	1.333	5
	Level of Correlation Averaged for Size of Operation (# of employees, acres, & animals), Number of Family Members Involved in the Operation, & Family Size; *1 representing a low level of correlation,* *5 representing a high level of correlation.*				
FinanceCorrelation		3.74	.8391673	1.333	5
	Level of Correlation Averaged for Inheritance of business and/or land, Percentage of assets held by loans, & Business Structure; *1 representing a low level of correlation,* *5 representing a high level of correlation.*				

Table 5. Continued

Variable	*Description*	Mean	SD	Min	Max
MarketCorrelation	*Level of Correlation Averaged for Percentage of Repeat-Customers, Product Diversity, and Adoption of New Technologies; 1 representing a low level of correlation, 5 representing a high level of correlation.*	3.982857	.7591659	2	5

Similar to the analysis and process with Variable Set 1, preliminary studies were conducted with Variable Set 2 using ordered logit analysis with *HurdleAve* as the dependent variable, followed by linear regression analysis using *Hurdle* as the dependent variable. Comparable to the findings of these two analyses for Variable Set 1, little significance was found amongst the variables for Variable Set 2. Low R-square values also suggest that this analysis has a poor fit for this model.

The ordered logit analysis, using the seven barrier variables (i.e. *BarrCapital, BarrExpEd, BarrCompetition, BarrLandLocal, BarrInterest, BarrRisk, and BarrUnsPrice*) individually as the dependent variables, was used for the final examination of Variable Set 2. These ordered logit models assume that the basic tendency to perceive barriers to business or farm entry is governed by an unobserved variable that is a linear function of those variables listed in Table 5. Results would be placed in a table to compare the relationships between the different dependent and explanatory variables.

$$y^* = X' \beta_1 LocalStores_j + \beta_2 DirectToConsumer_j + \beta_3 Wholesale_j + \beta_4 NewMethods_j + \beta_5 TraditionalMethods_j + \beta_6 SuccessFinancial_j + \beta_7 RiskWillingness_j + \beta_8 LeadershipSkills_j + \beta_9 CommunicationSkills_j + \beta_{10} PersonalityDriver_j + \beta_{11} FinanceBusinessManagement_j + \beta_{12} MarketingActivities_j + \beta_{13} ManagementTools_j + \beta_{14} CostsNewTech_j + \beta_{15} KnowledgeNewTech_j + \beta_{15} ExperienceCorrelation_j + \beta_{15} SizeCorrelation_j + \beta_{15} FinanceCorrelation_j + \beta_{15} MarketCorrelation_j + e$$

Where y^* represents the unobserved tendency to perceive barriers to business/farm entry, X is the vector of observed variables, and β is a vector of the estimated coefficients. It is assumed that the error term follows a logistic distribution and assigns the following categories of response for y:

$$y \begin{cases} 1 \text{ if } y* \leq \mu^1, \\ 2 \text{ if } \mu^1 < y* \leq \mu^2, \\ 3 \text{ if } \mu^2 < y* \leq \mu^3, \\ 4 \text{ if } \mu^3 < y* \leq \mu^4, \\ 5 \text{ if } \mu^4 \leq y* \end{cases}$$

The μ^i are cutoff parameters to be estimated and y takes on the value of 1 for "no perceived barrier," a value of 2 for "small perceived barrier," a value of 3 for "unsure," a value of 4 for "medium perceived barrier," and a value of 5 for "large perceived barrier."

Results

Results from both Variable Set 1-Demographics and Variable Set 2-Perceptions are given in Table 6 and Table 7, respectively. The seven ordered logit analyses used for Variable Set 1 resulted in Pseudo R-square values ranging from 0.0251 to 0.0523. All of these values are greater than the Pseudo R-square value of the ordered logit model used in preliminary analysis, suggesting that the separate use of the barrier variables in the ordered logit analysis increases the models' ability to explain perceived barriers to business and farm entry. The Pseudo R-square values for Variable Set 2 ranged from 0.0318 to 0.0972, though the preliminary ordered logit analysis resulted in a similar value of 0.0744.

As expected, and similar to what is found in other research, formal education was found to be significant in its relationship with many perceived barriers. Those who report higher levels of education and training are more likely to perceive experience, market competition, commitment, and volatile prices as low barriers to business and farm entry. Conversely, it can be said that low education levels would result in perceptions of these factors as large barriers-to-entry. However, those respondents that studied in the areas of business administration, agriculture & veterinary science, and accounting & finance were found to more likely perceive competition in the market as a barrier-to-entry, with agriculture & veterinary science majors also perceiving land as an increased barrier. It can be assumed that the realization of challenges, competition, and limited resources can present difficulties when starting and operating a new business or farm operation.

Contrary to what might be expected, age and gender were found insignificant in this analysis. As the majority of survey respondents were relatively young, perhaps no significant relationship could be identified between age and perceptions.

Interestingly, those people working in the public sector, a student, or self-employed are more likely to perceive risk as a smaller barrier-to-entry. As expected, those who are self-employed tend to be less risk adverse, and thus one can anticipate such results. The findings of this study also suggest that students and public agents/employees perceive risk as less of a barrier, which could propose that the experience and education obtained through study and work experience could lessen one's worry of risk, or its view as an inhibitor. Respondents who work in the private sector were more likely to view capital as a larger barrier, whereas, those who work in the public sector were more likely to say that capital is a smaller barrier. Difference in funding and revenue sources between the two sectors could have part in this reasoning.

Past experience in business and/or farming showed a negative correlation with perceptions of experience/education and market competition as barriers. The results suggest that as experience goes up, those perceived barriers lessen and decrease. Equally interesting, those people whose families have businesses and/or farms also perceive unstable prices as less of a barrier than those who do not.

Different market venues and options that are perceived to offer an improved price to retailors and/or producers are found to have different effects on perceptions of business barriers. Those people that perceive local stores and municipal market as offering better prices for retailors/producers are more likely to perceive risk as a large barrier to business entry. Those that perceive wholesale, commercial and private contracts as offering

improved prices are more likely to view experience/education and interest/commitment as smaller barriers, while at the same time perceiving volatile prices as a larger barrier. The interpretation of these results is difficult, but their reasoning could be based on past experience or some type of market exposure. This might also be said of the findings with regard to perceptions of marketing and promotion strategies. Those that perceive traditional means of marketing such as radio and print advertisements as effective promotion strategies were more likely to see competition and interest as larger barriers to entry. The opposite affect is seen with those people who perceive more modern means of promotion, such as internet and social media platforms, as effective strategies; if such was the case, these people were more likely to perceive experience and education as smaller or less of a barrier.

This study found that those people who use financial measures like profit and income as a measure of business success are more likely to perceive experience, education and competition as larger barriers. Such barriers may not only be seen as barriers-to-entry, but also barriers in business operation. Those that measure success by an operation's financials will also recognize the importance of education and experience, while at the same time acknowledge the risk of competition. Results also show that those respondents who view willingness to take risk as important for business owners are more likely to perceive interest and commitment as a smaller barrier.

Perceptions of leadership, management, and financial analysis and their relation to the barrier of capital have a positive correlation. Similarly, management tools such as business, production, financial, and marketing plans were found to have a positive relation with the view of the experience and education barrier. Conversely, marketing

activities such as providing customer service, expanding markets, and effectively promoting one's business were found to have a negative correlation with the perceptions of both unstable prices and education/experience as barriers-to-entry.

Respondents who perceived the deterrent for new technology adoption due to cost were more likely to view experience and education as less of a barrier. This differs from those people that perceive knowledge as a greater deterrent for new technology adoption. These people tend to be more likely to view barriers like land or a business locality as a larger or increased hurdle.

Some interesting results of this study are found in the responses to the questions regarding different factors and their correlation with business success. Those people that perceive a higher or more direct correlation between past experience and business success were also more likely to view experience, education and interest/commitment as large barriers-to-entry. It appears that those that recognize the importance and relation of business success and experience/training, also perceive it as a factor that will keep people out of entering into a given sector. Similarly, those that view financial factors, such as debt, inheritance, and business structure as having high or direct correlation with business success are more likely to also view experience, education, interest, and price volatility as greater barriers. In contrast, those respondents that view the size and market factors of an operation as having a higher level or direct correlation with business success are more likely to perceive experience, market competition, and business commitment/interest as less of a barrier. Those that understand the value of product diversity, economies of scale, customer service, and new technologies, also appear to perceive fewer hurdles in business.

Table 6. Ordered Logit Results – Variable Set 1-Demographics
Test-Statistics of the Different "Barrier" Dependent Variables

Variable *Description*	Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
	----------Dependent Variables Used----------						
Age *Age of survey participant;* 1= *Under 20* 2= *21-25* 3= *26-30* 4= *31-35* 5= *Over 36*	0.41	-0.01	-0.23	0.04	-0.09	0.88	-0.02
Gender *Gender of survey participant;* 1=*Male*, 0=*Female*	0.81	-0.14	-0.67	0.72	-0.53	0.61	0.54
EducationLevel *Education level of participant;* 1= *Some Elementary* 2= *Finished Elementary* 3= *Some Secondary Ed.* 4= *Finished Secondary Ed* 5= *Some College* 6= *Postsecondary Degree* 7= *Graduate Degree*	1.21	-1.65*	-1.68*	-0.77	-2.36**	-0.51	-1.97**

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 6. Continued

Variable *Description*	Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
	----------Dependent Variables Used----------						
EdTypeBizAdmin *Participant studied business administration or economics;* 1= *Studied Business Admin.,* 0= *Otherwise*	1.17	-0.52	1.64*	1.59	0.41	1.28	1.59
EdTypeAgVet *Participant studied agriculture or veterinary science;* 1= *Studied Ag./Vet. Sci.,* 0= *Otherwise*	-0.41	0.33	1.79*	2.35**	0.39	1.31	0.88
EdTypeAcctFinc *Participant studied accounting or finance;* 1= *Studied Acct./Fin.,* 0= *Otherwise*	0.42	-0.50	1.64*	1.07	-0.92	0.47	0.45
EdTypeCompIT *Participant studied computer science or IT;* 1= *Studied Comp. Sci. or IT,* 0= *Otherwise*	1.24	0.57	1.16	1.26	0.95	-0.03	0.78

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 6. Continued

Variable *Description*	Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
	----------Dependent Variables Used----------						
OccupationStudentNone *Currently a student And/or not employed;* 1=*Student and/or Not Employed*, 0= *Otherwise*	-0.67	0.28	0.01	0.15	-0.56	-1.98**	-0.89
OccupationPublicSec *Currently employed in the public sector;* 1=*Employed in Public Sector,* 0= *Otherwise*	-1.81*	0.94	0.35	-0.03	1.25	-2.01**	-0.27
OccupationPrivateSec *Currently employed in the private sector;* 1=*Employed in Private Sector*, 0= *Otherwise*	1.69*	0.60	1.08	-0.32	0.43	0.09	0.80
OccupationSelfEmplFamilyBiz *Currently self-employed ;* 1=*Self Employed,* 0= *Otherwise*	-0.36	0.38	-0.97	0.15	0.21	-2.53***	-1.19
FuturePlansPublicSec *Future plans to work in the public sector;* 1= *Plans to Work in the Public Sector in the Future,* 0= *Otherwise*	1.33	-0.03	-0.83	0.39	-1.35	0.36	-1.09

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 6. Continued

Variable *Description*	Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
	----------Dependent Variables Used----------						
FuturePlansSelfEmp *Future plans to be self-employed;* 1= *Plans to be Self-Employed in the Future,* 0= *Otherwise*	0.74	0.95	-0.38	-1.55	-0.26	-0.01	-1.20
FuturePlansPrivateSec *Future plans to work in the private sector;* 1= *Plans to Work in the Private Sector in the Future,* 0= *Otherwise*	0.64	0.49	-1.35	-1.20	-0.83	-0.34	-0.48
FamilyBiz *Participant comes from a family with a business;* 1=*Family Has a Business,* 0= *Otherwise*	0.33	-0.68	-1.19	-0.57	-0.07	-0.38	-2.00**
ExperienceLevel Participant's experience level with business; 1= *No Experience* 2= *Little Experience* 3= *Unsure* 4= *Some Experience* 5= *High Level of Experience*	-0.06	-2.19**	-2.28**	0.42	-1.54	-0.12	1.25

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 7. Ordered Logit Results – Variable Set 2-Perceptions
Test-Statistics of the Different "Barrier" Dependent Variables

Variable *Description*	Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
	----------Dependent Variables Used----------						
LocalStores	-0.55	-0.02	0.97	0.54	-0.29	1.88*	1.47
1=*Perceives Local Stores & Municipal Markets offering an improved price*							
0= *Otherwise*							
DirectToConsumer	-1.23	-0.15	0.20	1.17	-1.25	0.81	-1.67
1=*Perceives Direct-to-Consumer Markets (Farmers' Markets & Road Stands) offering an improved price*							
0= *Otherwise*							
Wholesale	0.64	-2.39**	0.02	0.55	-2.53**	-0.15	3.12***
1=*Perceives Wholesale/ Commercial/Private Contracts offering an improved price*							
0= *Otherwise*							
NewMethods	-1.35	-2.38**	-0.02	-1.33	0.74	-0.68	-0.74
1= *Perceives Internet/ Social Media promotion as an effective marketing strategy*							
0= *Otherwise*							

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 7. Continued

Variable *Description*	Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
	----------Dependent Variables Used----------						
TraditionalMethods 1= *Perceives Traditional Methods such as Radio and Print Advertisement promotion as an effective marketing strategy* 0= *Otherwise*	-0.25	0.59	1.78*	0.07	2.17**	0.34	0.71
SuccessFinancial 1=*Considers Financial Measure of Success (Profit/Income)* 0=*Otherwise*	0.34	2.06**	1.65*	-0.22	-0.01	0.86	0.53
RiskWillingness 1= *Not Importance* 2= *Little Important* 3= Unsure 4= Important 5= *Highly Important*	0.02	-0.52	1.02	0.41	-1.71*	-1.07	-0.35

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 7. Continued

Variable *Description*	Dependent Variables Used: Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
LeadershipSkills *Level of Importance Averaged for Leadership, Strategic Management, Employee Management, & Financial Analysis Skills; 1 representing a low level of importance, and 5 representing a high level of importance.*	2.11**	1.04	-0.03	0.43	-1.22	0.39	-0.59
CommunicationSkills *Level of Importance Averaged for Communication, Marketing & Networking Skills; 1 representing a low level of importance, and 5 representing a high level of importance.*	-0.83	1.38	0.78	-0.52	1.10	0.42	-0.83
PersonalityDriver 1=*Driver Personality Type Business Owner* 0=*Otherwise*	-1.24	-1.26	0.57	-1.02	-1.39	-0.14	0.93

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 7. Continued

Variable *Description*	Dependent Variables Used: Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
FinanceBusinessManagement *Level of Importance Averaged for Obtaining Financing, Improving Profitability, Controlling Costs, Acquiring Land or Locality, Conducting Business-Planning, & Managing Employees; 1 representing a low level of importance, and 5 representing a high level of importance.*	-0.28	0.09	1.04	0.99	1.21	1.50	1.46
MarketingActivities *Level of Importance Averaged for Expanding Markets, Effective Marketing, & Providing Customer Service; 1 representing a low level of importance, and 5 representing a high level of importance.*	0.55	-2.17**	-1.28	0.34	-1.45	-1.21	-2.29**

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 7. Continued

Variable *Description*	Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
	----------Dependent Variables Used----------						
ManagementTools *Level of Importance Averaged for using Business Plans, Marketing Plans, Production Plans, & Financial Plans; 1 representing a low level of importance, and 5 representing a high level of importance.*	-0.17	3.08***	0.45	-0.20	1.27	1.06	1.66
CostsNewTech 1= *Perceives Costs (time & expense) as major deterrent from adopting new technologies* 0= *Otherwise*	1.54	-1.71*	-0.81	1.37	-1.03	0.87	0.10
KnowledgeNewTech 1= *Perceives Knowledge and Risk as major deterrents from adopting new technologies* 0= *Otherwise*	0.24	-0.37	0.76	2.28**	0.83	0.72	-0.51

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 7. Continued

Variable Description	Dependent Variables Used: Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
ExperienceCorrelation *Level of Correlation Averaged for Years of Experience, Primary Occupation, and Years of Formal Education; 1 representing a low level of correlation, and 5 representing a high level of correlation.*	-0.80	2.55***	1.49	0.74	1.77*	-0.19	2.13
SizeCorrelation *Level of Correlation Averaged for Size of Operation (# of employees, acres, & animals), Number of Family Members Involved in the Operation, & Family Size; 1 representing a low level of correlation, and 5 representing a high level of correlation.*	-1.24	-3.47***	-0.10	0.55	-1.50	0.05	0.62

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

Table 7. Continued

Variable Description	Dependent Variables Used: Capital Barrier	Experience & Education Barrier	Competition Barrier	Land/Locality Barrier	Interest/ Commitment Barrier	Perceived Risk Barrier	Unstable Prices Barrier
FinanceCorrelation *Level of Correlation Averaged for Inheritance of business and/or land, Percentage of assets held by loans, & Business Structure; 1 representing a low level of correlation, and 5 representing a high level of correlation.*	1.03	1.97**	1.33	0.84	2.32**	0.17	2.09**
MarketCorrelation *Level of Correlation Averaged for Percentage of Repeat-Customers, Product Diversity, and Adoption of New Technologies; 1 representing a low level of correlation, and 5 representing a high level of correlation.*	3.34***	-1.83*	-2.37**	-0.35	-1.75*	-0.32	-1.28

***significant at p < 1%, **significant at p < 5%, *significant at p < 10%

CHAPTER 4

DISCUSSION AND CONCLUSION

Many efforts have been made by governments, government agencies, nonprofit organizations and other entities to support rural development. Both the agriculture and nonagriculture sectors are important to the overall success and vitality of rural communities, while also providing improved opportunities and standards of living for rural residents. Promotion and improvement of these two sectors will also provide increased opportunities for Paraguay's young population. This study has focused on young would-be entrepreneurs in rural areas throughout the country, observing their perceptions of business success factors and barriers-to-entry. Findings suggest several relations between these views and the perceived level of barriers/hurdles to business and farming operations. This chapter will discuss some of the key findings from this study and what their implications might suggest to heads of state, government agencies and development groups interested in rural development and rural youth education/training.

Key Findings

Results from economic analysis suggest that experience level, years of education, technical training and areas of study are likely to lessen or lower perceived barriers-to-entry among young would-be entrepreneurs and agriculture students. Such findings propose the importance of exposing youth and young adults to enterprise operation and management as part of educational programs and curriculums. This exposure could be

part of the formal education experience or through providing training and capacity building opportunities by alternative means.

Government agencies have set goals to improve human capacities in the area of entrepreneurship and business development. It is important that rural inhabitants acquire the skillsets necessary to own and operate enterprises with success. The incorporation of financial literacy, operation management, communication, marketing, and strategic planning should be added to the core curriculum of the nation's education system on both the secondary and postsecondary levels. Such efforts will improve the preparation and training of those students graduating from both high school and college, and their starting careers. A special emphasis of both agriculture and nonagriculture programs can be implemented at elementary schools to expose children at earlier ages to basic concepts of enterprise management and encourage entrepreneurial creativity. Extension specialists and field technicians can also be trained in the areas of entrepreneurship, business development and social enterprises to educate agriculture producers, and thus improve their business/operation management skills.

A significant difference in gender was noted between the mean values of the small-farm and small businesses groups. Participation in agriculture activities are observed to be dominated by a majority of males, where in the small-business/nonagriculture group a majority of females are observed. This may be explained by the commonly seen male-dominate mentality that exists in certain areas of Paraguayan culture. Gender however, was not observed to be significant in the ordered logit models describing perceived barriers-to-entry.

This study also identifies those people employed in the private sector as perceiving capital as a greater barrier. Scholarship also suggests that access to capital is a major factor to business success in most sectors. Reasonable credit options for micro, small and medium-size enterprises might lower these perceptions of capital as a hurdle to business and farm entry. The presence of financial institutions in rural areas can also ensure that small business and/or farm operators can have access to credit without the need to travel long distances to have greater options.

Mitigating risk is another area in which policy makers and development organizations might serve rural areas. This research found that both self-employed and family business/farm operators perceive risk as less of a barrier-to-entry; although, a significant difference was noted between the small-farm and small-business groups surveyed regarding their perceptions of risk. A large portion of the small-farm group perceived risk as being a larger barrier than the small-business group. This group, along with those respondents that study in the area of agriculture and veterinary science, also view access to land as a larger barrier. Private property and access to land is a major concern for agriculturists and the success of the agriculture sector. Government policy that improves access to land for new and existing farm operators can improve the perceptions of these potential barriers.

Other important findings suggest differences in marketing strategies and activities, as well as different market options, significantly influence perceptions of business hurdles. Such findings coincide with government efforts to improve market options, market information, and means of promotion.

Future Study

Further investigation of potential hurdles to business entry and operation – including the views of such factors – would prove beneficial for this topic. Increasing the number of survey observations and pooling more diversified groups of people might provide a more holistic view of young entrepreneurs and their perceptions in rural areas. Identifying and interviewing successful business and farm owners throughout rural Paraguay would provide specific insight to the rural business environment and opportunity on a national level. Including questions about perceptions of and experiences with government programs and initiatives would provide better information for policy implementation.

Conclusion

The continued progress of the rural economy is important for Paraguay's further development as a nation. Both agriculture and nonagriculture activities will strengthen these economies, while also providing opportunities and advancements for the rural population. Stimulating economic growth in rural areas will require the enticing of youth and young adults to the private sector through small business and farming operations. Small businesses and farms are fundamental to the economic success of rural communities. Understanding the views and perceptions of young, would-be entrepreneurs regarding business success and barriers to business and farm entry is an important aspect to effective rural development programs and policies.

This study has identified several factors that influence the perceptions of young, would-be entrepreneurs and agricultural producers regarding business/farm success

factors and barriers. Many of these factors are based primarily on one's past experience, business/farm exposure, level of education/training, type of occupation and area of study, among others. The results of economic analysis suggest that as these factors increase and improve, many of the perceptions of barriers to business/farm entry lessen. A high percentage of the survey respondents also view strong correlations between specific business characteristics and success. Many managerial practices and activities were also perceived as highly important for successful business operation.

These findings advocate that further education and training opportunities be provided to rural residents in the areas of entrepreneurism and enterprise development. Exposure to business/farm operations and management at early ages, through school programs and curriculum may also prove beneficial. Improving access to capital and financing options in rural areas may also lessen the perceived barriers for new business entrance. Providing access to land and property programs may incentivize more participants in agriculture activities and improve opportunity for increased family farm income. These actions by policy makers and development groups can support the advancement of rural economies, improve the skillsets and training of its population, and increase the standard of living in such communities.

REFERENCES

Altieri, M. A., & Masera, O. (1993). Sustainable rural development in Latin America: building from the bottom-up. *ogical Economics*, 93-121.

Austin, E., Willock, J., Deary, I. J., Gibson, G. J., Dent, J. B., Edwards-Jones, G., . . . Sutherland, A. (1998). irical Models of Farmer Behaviour Using Psychological Social and Economic Variables. Part I: Linear Modelling . *cultural Systems*, 213-224.

Austin, E., Willock, J., Deary, I. J., Gibson, G. J., Dent, J. B., Edwards-Jones, G., . . . Sutherland, A. (1998). rical Models of Farmer Behaviour Using Psychological Social and Economic Variables. Part II: Nonlinear Modeling. *Agriculture Systems*, 225-241.

Baptista, R., Karaoz, M., & Leitão. (2010, June 16 -18). Diversification by Young, Small Firms. *Druid, Summer Conference*. London, England.

Baron, R. A., & Markman, G. D. (2003). Beyond social capital, the role of entrepreneurs' social competence in their financial success. *Journal of Business Venturing*, 41-60.

Benzing, C., Chu, H. M., & Kara, O. (2009). Entrepreneurs in Turkey: A Factor Analysis of Motivations, Success Factors, and Problems. *Journal of Small Business Mangement* , 58-91.

Besser, T. L. (1999). Community Involvement and the Perception of Success among Small Business Operators in Small Towns. *Journal of Small Business Management* , 16-29.

Bhuyan, S., & Leistritz, F. L. (2001). amination of Characteristics and Determinants of Success of Cooperatives in the Non-Agricultural Sectors. *Journal of Cooperatives*, 62.

Blackman, A. (2014, December 8). *The Main Types of Business Risk* . Retrieved from envatotutus: http://business.tutsplus.com/tutorials/the-main-types-of-business-risk--cms-22693

Books, L. W. (2012). Small and Home-Based Businesses: Measures of Success and the Contribution of Local Development Services. *Journal of Extension* , Vol. 1, Num. 1.

Bradley, F., Hill, P., & Connolly, A. J. (2012). An Agribusiness H. R. Issue: Secceeding at succession in the Family Business. *International Food and Agribusiness Management Review*, Vol. 15, S. I. A.

Bruno, A. V. (1987). Why Firms Fail. *Business Horizons*, 50.

Busch, E. T. (1989). Small business hurdles in Ecuador. *Journal of Small Business Mangement*, 70-73.

Cai, X., Higgins, L., & Wolf, M. M. (2015). Millennials Leaning In: Can Women in Agribusiness Benefit from Technology and Social Collaboration in Higher Education? *International Food and Agribusiness Management Review*, Vol. 18, Iss. 2.

Caliendo, M., & Kritikos, A. S. (2008). Is Entrepreneurial Success Predictable? An Ex-Ante Analysis of the Character-Based Approach. *Kyklos*, 189-214.

Cardozo, E. (2012). Actualidad Agropecuaria del Paraguay año 2012. *Ministerio de Agricultura y Ganaderia*. Asunción, Central, Paraguay: Ministerio de Agricultura y Ganaderia.

Central Intelligence Agency. (2015, Oct 13). *Paraguay: Background*. Retrieved from The World Factbook Library: South America, Paraguay: https://www.cia.gov/library/publications/the-world-factbook/geos/pa.html

Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the Family Business by Behavior. *Entrepreneurship: Theory & Practice*, 19-39.

Collins, J. C., & Porras, J. I. (1995). Built To Last. *Soundview Excecutive Book Summaries*, Vol. 17, No. 2.

Cooke-Davies, T. (2002). The "real" success factors on projects. *International Journal of Project Management*, 185-190.

Cooper, A. C., & Artz, K. W. (1995). Determination of satisfaction for entrepreneurs. *Journal of Business Venturing* , 439-457.

Cooper, A. C., Gimeno, J., & Woo, C. Y. (1994). Initial Human and Financial Capital as Predictors of New Venture Performance. *Journal of Business Venturing*.

D'Intino, R. S., Goldsby, M. G., Houghton, J. D., & Neck, C. P. (2007). Self-Leadership: A Process for Entrepreneurial Success. *Journal of Leadership and Organizational Studies*, Vol. 13, N. 4.

Ekanem, I., & Wyer, P. (2007). A fresh start and the learning experience of ethnic minority entrepreneurs . *International Journal of Consumer Studies* .

Engerman, S., & Sokoloff, K. L. (2002). Endowments, Inequality, and Paths of Development among New World Economies. *Endowments, Inequality, and Paths of Development among New World Economies*, 41-109.

European Commission. (2007). *Paraguay, Country Strategy Paper 2007-2013.* European Commission.

Fariña, D., Coronel, A., & Avalos, J. (2015). *Haciendo Negocios en Paraguay.* Asunción: Deloitte.

Flamholtz, E. G. (2000). Organizational success and failure: an empirical test of a holistic model. *European Management Journal*, 488-498.

Fortuin, F. T., Batterink, M. H., & Omta, S. (. (2007). Key Success Factors of Innovation in Multinational Agrifood Prospector Companies. *International Food and Agribusiness Management Review*, Vol. 10, Iss. 4.

Frese, M., Brantjes, A., & Hoorn, R. (2002). Psychological Success Factors of Small Scale Businesses in Namibia: The Roles of Strategy Process, Entrepreneurial Orientation and the Environment. *Journal of Development Entrepreneurship*, Vol. 7, No. 3.

Gadenne, D. (2015). Critical Success Factors for Small Business: An Inter-industry Comparison. *International Small Business* , 17, 1.

Gatewood, E. J., Shaver, K. G., & Gartner, W. B. (1995). A Longitudinal Study of Cognitive Factors Influecing Start-up Behaviors. *Journal of Business Venturing*, 371-391.

Gobierno Nacional - Paraguay. (2014). *Paraguay 2014-2030: Plan Nacional de Desarrollo*. Retrieved from 1er Informe de Gobierno, 2013 - 2014: http://www.informepresidencial.gov.py/paraguay-2030-plan-nacional-de-desarrollo

Gobierno Nacional del Paraguay. (2014). *Plan Nacional de Desarrollo Paraguay 2030.* Asunción: Gobierno Nacional.

Goddard, E. W., Schram, C., Huang, W., & Yang, J. (2010). *Value-Added Meat: Past Success and Predicting Future Winners.* Edmonton, Canada: University of Alberta .

Hardestry, S. D., & Leff, P. (2009). Determining marketing costs and returns in alternative marketing channels. *Renewable Agriculture and Food Systems*, 24-34.

Hax, A. C., & Majluf, N. S. (1983). The Use of the Industry Attractiveness - Business Stregth Matrix in Strategic Planning . *Interfaces*, 54-71.

Hill, W. C., & Hoskisson, R. E. (1987). Strategy and Structure in the Multiproduct Firm. *Academy of Management*, 331-341.

Hirschi, G., & Jones, M. (2009). Affects of Strategic Leadership on Business Success - A Cross-Cultural Analysis from a Resource Based View. *EconLit*, 1-18.

Howard, W. H., Fairnie, I. J., Schneider, V. E., & Litzenberg, K. K. (1990). Characteristics required for success in management of agribusiness firms: an international perspective. *Agribusiness*, 133-142.

Hussain, D., & Safar Yaqub, M. (2010). Micro-entrepreneurs: Motivations Challenges and Success Factors. *International Research Journal of FInance and Econimics* , Issue 56.

IFAD. (2001). *Markets for the Rural Poor.* Rome, Italy: International Food and Agriculture Development.

Index Mundi. (2007). *Millennium Development Goals: Paraguay*. Retrieved from Millennium Development Goals: http://www.indexmundi.com/paraguay/millennium-development-goals.html

Inter-American Development Bank. (2005). *The Millennium Development Goals in Latin America and the Caribbean: Progress, Priorities and IDB Support for Their Implementation.* Washington, D.C.: Inter-American Development Bank.

Janvery, A. d., & Sadoulet, E. (1989). Investment Strategies to Combat Rural Poverty: A Proposal for Latin America . *World Development* , 1203-1221.

Johnson, K., Seitzinger, A., Thilmany, D., Pendell, D., & Pritchett, J. (2011). *Operator and Operation Characteristics: A Comparison of Low-Sales, Medium-Sales, and Large Family Farm Operations in the United States.* Fort Collins: Colorado State University.

Key, N., & Runsten, D. (1999). Contract Farming, Smallholders, and Rural Development in Latin America: The Organization of Agroprocessing Firms and the Scale of Outgrower Production. *World Development, Pergamon*, 381-401.

Kirsten, J., & Sartorius, K. (2002). Linking agribusiness and small-scale farmers in developing countries: Is there a new role for contract farming? . *ational Food and Agribusiness Management Review* , 503-529.

La Asesoría Econónica del la Asociación Rural del Paraguay. (2008). *Situación actual & Potencialidades del Sector Ganadero.* Asunción, Paraguay: La Asesoría Econónica del la Asociación Rural del Paraguay.

Lee, M.-S., Rogoff, E. G., & Puryear, A. N. (1996). Black Entrepreneurship: It Has a Past and it Can Have a Future. *The Entrepreneurial Executive* , Vol. 1, No. 2.

Liedholm, C. (2002). Smal Firm Dynamics: Evidence from Africa and Latin America. *Small Business Economics*, 227-242.

Lussier, R. N. (1995). A Nonfinancial Business Success versus Failure Prediction Model for Young Firms. *Journal of Small Business Management* , 8-20.

Lussier, R. N. (1995). Start-up business advice from business owners to would-be entrepreneurs. *SAM Advanced Management Journal* , 10-14.

Lussier, R. N. (1996). Reasons why small businesses fail: and how to avoid failure. *Entrepreneurial*, Vol. 1, S.I. 2.

M.N., L., Schmit, T. R., & Streeter, D. (2009). Evaluating marketing channel options for small-scale fruit and vegetable producers . *Renewable Agriculture and Food Systems*, 16-23.

Markman, G. D., & Baron, R. A. (2003). Person-entrepreneurship fit: why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, 281-301.

Marty, B. (2014, May 5). *Paraguay the Diamond in the Rough for Economic Growth amid Weakening Latin America*. Retrieved from PanAm Post: http://panampost.com/belen-marty/2014/05/05/paraguay-the-diamond-in-the-rough-for-economic-growth-amid-weakening-latin-america/

Mead, D. C., & Liedholm, C. (1998). The Dynamics of Micro and Small Enterprises in Developing Countries . *World Development*, 61-74.

Meyer, C., & Schwager, A. (2007). Understanding Customer Experience. *Harvard Business Review*, 117-126.

Ministerio de Agricultura y Ganadería. (2013). *Marco Estrategico Agrario.* Asuncion, Paraguay: Gobierno Nacional.

Ministerio de Hacienda. (2012). *Informe de las Finanzas Publicas de la Republica del Paraguay.* Asunción: Minsterio de Hacienda.

Mishra, A. K., El-Osta, H. S., & Johnson, J. D. (1999). Contributing to Earning Success of Cash Grain Farms. *al of Agricultural and Applied Economies* , 623-637.

Moon, Z. K., Farmer, F. L., Abreo, C., & Miller, W. P. (2013). Human Capital Attributes of Hispanic Immigrant Entrepreneurs in a New Destination State. *Journal of Hispanic Higher Education*, 369-385.

Morris, M. H., Williams, R. O., Allen, J. A., & Avila, R. A. (1997). Correlates of Success in Family Business Transitions. *Journal of Business Venturing*, 385-401.

Neely, A., Adams, C., & Kennerley, M. (2002). *The Performance Prism: The Scorecard for Measuring and Managing Business Success.* Cranfield, U.K.: Cranfield University.

Nichter, S. (2009). Small Firm Growth in Developing Countries. *World Development*, 1453-1464.

Onyango, B., Govindasamy, R., & Alsup-Egbers, C. M. (2015). Uncovering Success Attributes for Direct Farmers' Markets and Agri-Tourism in the Mid-Atlantic Region of United States. *International Food and Agribusiness Management Review*, Vol. 18.

Park, T. (2015). Direct Marketing and the Structure of Farm Sales: An Unconditional Quantile Regression Approach. *Journal of Agricultural and Resource Economics*, 266-284.

Park, T., Mishra, A. K., & Wozniak, S. J. (2013). Do farm operators benefit from direct to consumer marketing strategies? *Agricultural Economics*, 213-224.

Pendell, D., Johnson, K., Pritchett, J., Thilmany, D., & Seitzinger, A. (2011). *Production Resources and Management: A coparison of Low-Sales, Medium-Sales, and Large Family Farm Operations in the United States.* Fort Collins: Colorado State University.

Pfeffer, J., & Fong, C. T. (2002). The End of Business Schools? Less Success than Meets the Eye. *Academy of Management Learning & Education*, 78-95.

Pritchett, J., Johnson, K., Seitzinger, A., Thilmany, D., & Pendell, D. (2011). *Demographics, Production Characteristics and Financial Performance Executive Summary: A Comparison of Low-Sales, Medium-Sales, and Large Family Farm Operations in the United States.* Fort Collins: Colorado State University.

Rios, L. (2015, June 10). *Paraguay: A Lost Paradise and a Land of Opportunity in the Heart of South America*. Retrieved from Huffington Post: http://www.huffingtonpost.com/news/distilledperspective/

Romano, C. A., Tanewski, G. A., & Smyrnios, K. X. (2000). Capital Struture Decision Making: A Model for Family Business . *Journal of Business Venturing* , 285-310.

Safdar, M., Fisseha, T., & Ekanem, E. (2004). Contributing to Success of Small Farm Operations in Tennessee. *Journal of Extension*, Volume 42, Number 4.

Sexton, R. J., & Iskow, J. (1988). Factors Critical to the Success or Failure of Emerging Agricultural Cooperatives. *Giannini Foundation of Agriculture Economics* , No. 88-3.

Stup, R. E., Holden, L. A., & Hyde, J. (2007). CASE STUDY: Profiles of Management Competencies Identified by Successful Dairy Managers. *The Professional Animal Scientist*, 728-737.

The World Bank. (2011). *Doing Business 2011 - Paraguay.* Washington, DC: The World Bank.

The World Bank. (2014). *Country SnapShot - Paraguay*. Retrieved from The World Bank - Working for a World Free of Poverty: http://rru.worldbank.org/BESnapshots/Paraguay/default.aspx

Thimany, D., Pendell, D., Johnson, K., Seitzinger, A., & Pritchett, J. (2011). *Profitability Measures and Financial Structure: A Comparison of Low-Sales, Medium-Sales, and Large Family Farm Operations in the United States.* Fort Collins: Colorado State University.

Titus, S. (2004). *Key Reasons Why Small Businesses Fail.* The Institute for Independent Business. Retrieved from The Institute for Independent Business: http://www.summitbusinesssolutions.ws/docs/reasons_biz_fail.pdf

Unidad Tecnica de Estados para la Industria. (2011). *Negocios en el Paraguay: Elementos del Costo país.* Asución: Ministerio de Industria y Comercio.

Unidad Técnica de Estudios para la Industria. (2007). *Negocios en el Paraguay: Elementos del Costo País 2007.* Asución, Paraguay: Ministerio del Desarrollo & Organización de las Naciones Unidas para el Desarollo Industrial.

Unidad Técnica de Estudios para la Industria. (2011). *Negocios en el Paraguay: Elementos del Costo país.* Asunción: Ministerio de Industria y Comercio.

Van Auken, H., & Werbel, J. (2006). Family Dynamic and Family Business Financial Performance: Spousal Commitment. *Family Business Review*.

Walker, E. B. (2004). What Success Factors are Important to Small Business Owners? . *International Small Business Journal* , 577-594.

Watson, K. H.-S. (1998). Small business start-ups: success factors and support implications. *International Journal of Entrepreneurial Behaviour & Research*, 217-238.

Willock, J., Deary, I. J., Dent, B., Grieve, R., Gibson, G., & Austin, E. (1999). Farmers' Attitudes, Objectives, Behaviors, and Personality Traits: The Edinburgh Study of Decision Making on Farms. *Journal of Vocational Behavior*, 5-36.

World Bank. (2010). *Doing Business 2010 - Paraguay.* Washington, D.C.: World Bank.

World Bank. (2010). *Paraguay Poverty Assessment, Determinats and Challenges for Poverty Reduction.* Washington: World Bank LAC.

Yeboah, A. K., Owens, J. P., & Bynum, J. S. (2011). Factors Influencing Successful Small-Farm Operations in North Carolina. *Corpus Christi.* Texas: Corpus Christi.

Yeng, J. A. (2007). *Estudio legal sobre la paricipación de Micro y Pequeñas Empresas en las Contrataciones Públicas en el Paraguay.* Asunción, Paraguay: Organización Internacional del Trabajo.

Yimazer, T., & Schrank, H. (210). The Use of Owner Resources in Small and Family Owned Businesses: Literature Review and Future Research Directions. *J Fam Econ* , 399-413.

Yusuf, A. (1995). Critical Success Factors for Small Business: Perceptions of South Pacific Entrepreneurs . *Journal of Small Business Management* , 68-73.