

**INFLUENCE OF ENTREPRENEURIAL DIMENSIONS ON  
GROWTH OF WOMEN MICRO BUSINESSES IN  
RWANDA**

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**DECLARATION**

This thesis is my original work and has not been presented for a degree in any other University.

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## **DEDICATION**

I dedicate this work to Almighty God whose mercy I live, to my beloved wife Akariza Annah and my Parents Kayinamura Peter and Mukantabana Anne-Maria for their parental love and support for this remarkable academic achievement and my beloved sisters, brothers, relatives and friends I sincerely dedicate this work.

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## LIST OF ACRONYMS

<b>BDC</b>	: Business Development Centers
<b>COMESA</b>	: Common Market for East and South Africa
<b>DOI</b>	: Diffusion of Innovation
<b>EAC</b>	: East African Community
<b>EDPRS II</b>	: Economic Development poverty reduction strategy
<b>GDP</b>	: Gross Domestic Product
<b>GHG</b>	: Green House Gas
<b>GoR</b>	: Government of Rwanda
<b>IPAR</b>	: Institute for Policy Analysis and Research
<b>Ki</b>	: Capital
<b>MFP</b>	: Multifactor Productivity
<b>OECD</b>	: Organization for Economic Cooperation and Development
<b>OECD</b>	: Organization for Economic Co-operation and Development
<b>RBV</b>	: Resource Based View
<b>SME</b>	: Small and Medium Enterprises
<b>SPSS</b>	: Statistical Package for Social Science
<b>UNDP</b>	: United Nations Development Program

**VAT** : Value Add Tax

**VIF** : Variance Inflation Factor

**WACC** : Weighted Average Cost of Capital

## OPERATIONAL DEFINITION OF TERMS

**Entrepreneurial dimension:** Essentially, entrepreneurial dimension is holistic, It covers a range of issues necessary to provide value to customers and a good return such as innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness. It is possibly best described as an all-encompassing attitude that allows businesses to see beyond the present and altimetry in so doing it create the future by proving employment opportunities to poor and youth (Bhushan, 2017).

**Entrepreneurship:** Is a dynamic process of creating incremental wealth, the wealth created by individuals who assumed the major risks in terms of equity, time and /or career commitment or provided value for same product or service (Ikeiji & Onuba, 2015).

**Growth:** Change in size or magnitude of a firm from one period of time to another. Marked and sustainable increase in assets, market share, profitability, customer base, branch, network, capital base, and social impact (Kavale, Mugambi & Namusonge, 2014).

**Micro Business:** A micro-Business is generally defined as a small business employing few people and having a balance sheet or turnover that is relatively low, it varies from country to another depending on their level of development. The term microenterprise and microbusiness have the same meaning, though traditionally when referring to a small business financed by microcredit the term microenterprise is often used. Similarly, when referring to a small, usually legal business that is not financed by microcredit, the term microbusiness (or micro-business) is often used (De Moraes, Ekanem & Osabutey, 2017).

- Net worth:** The value of all the non-financial and financial assets owned by an institutional unit or sector minus the value of all its outstanding liabilities. Thus, net worth can refer to companies, individuals, or governments (Duggan, 2013).
- Profitability:** The state or condition of yielding a financial profit or gain. It is often measured by price to earnings ratio (Fields, 2016).
- Sales turnover:** According to Chang (2007), this is the total amount of revenue generated by a business during the calculation period. The concept is useful for tracking sales levels on a trend line through multiple measurement periods, in order to spot meaningful changes in activity levels. The calculation period is usually one year.
- Small and medium enterprises:** Business segment term used differently in different countries, sometimes differently in different industries in the same country. In the US, any firm from small-office home-office (SOHO) to a large corporation may be called a SME. More specifically, firms included in Russel indices such as Russel 2500 index and Russel Midcap index are classified as SMEs (Dan, 2014).
- Women Business:** Women's productive activities, particularly in industry, empower them economically and enable them to contribute more to overall development. Whether they are involved in small or medium scale production activities, or in the informal or formal sectors (Mwobobia, 2012).

## ABSTRACT

The study focused on influence of entrepreneurial dimensions on growth of women micro business in Rwanda. Four specific objectives formed the basis of this study: to identify the influence of innovation on growth of women micro business in Rwanda, to examine entrepreneurial finance on growth of women micro businesses in Rwanda, to identify the influence of entrepreneurial training on growth of women micro businesses in Rwanda, to establish the effects of entrepreneurial awareness on growth of women micro businesses in Rwanda. Diffusion of innovation theory, trade-off theory, Finance theory and knowledge spillover theory were used for the study. Mixed research approach was adopted. The target population comprised all registered women micro businesses across different business sectors Bugesera district. There were 8,629 registered businesses as at 01<sup>st</sup> January 2017. A sample size of 324 women micro businesses was drawn from the target population using Slovin's formula. Stratified sampling technique was used to select the sample size of 324 from the different business/activity sectors. Simple random sampling was then used to select the sample. Both primary and secondary data were collected. The questionnaires were the primary tools used for collection of data where they were self-administered by the researcher and response of 317 was obtained. In analyzing the responses, the Statistical Package for Social Science (SPSS) Version 22.0 was used to present descriptive statistics such as percentages, frequency distributions, measures of central tendencies, and measures of variations. Data analysis and interpretation was based on descriptive statistics and measures of dispersion as well as inferential statistics; bivariate and multivariate regression analysis, Pearson correlation, factor analysis and analysis of variance were employed, Based on ANOVA results study revealed that innovation had ( $F = 84.546$ ,  $p = 0.000$ ), Entrepreneurial finance ( $F = 29.652$ ,  $p = 0.000$ ), entrepreneurial training ( $F = 100.763$ ,  $p = 0.000$ ) and entrepreneurial awareness ( $F = 88.748$ ,  $p = 0.000$ ). Multilinear regression model was used in explaining the influence of entrepreneurial dimensions on growth of women micro business in Rwanda. The study results concluded that entrepreneurial dimensions (measures of innovation entrepreneurial finance, entrepreneurial training and entrepreneurial awareness) had significant and positive influence on growth of women micro business (in terms of profit, change in net-worth and sales turnover) in Rwanda. The study recommends that managers should be able to enhance their entrepreneurial dimension through acquisition of broad information to make informed entrepreneurial decisions. Cashflow techniques should be adopted to reduce bankruptcy risks, maintain control of the business as well as allocating business funds and income into viable projects that will increase the value of the enterprise. The study further recommended women micro businesses to operationalize training which will improve production and quality. The study recommends that improving on cash management policies on transactions in order to optimize use of cash and maintain optimum liquidity.

## **CHAPTER ONE**

### **INTRODUCTION**

This study sought to determine influence of entrepreneurial dimension on growth of women micro business in Rwanda. This chapter introduces the study by briefly describing the background of the study, global, regional and national entrepreneurial perspective, statement of the problem, general and specific objectives study, research questions, and research hypotheses that guided this research was discussed. The justification of the study is outlined, and significance of the study also was discussed. The chapter is concluded by highlighting the scope of the study and limitations.

#### **1.1. Background of the study**

Entrepreneurship all over the world is emerging today as an avenue for gainful employment, a means of helping women to assert themselves in the world of work, and a way of improving both their economic and social status. Small and Medium Enterprises (SMEs) are viewed as a key driver of economic and social development in the African context (Maina, 2016). They represent a large number of businesses in a country, generate much wealth and employment and are widely considered to be vital to a country's competitiveness. Business are hailed for their pivotal role in promoting grassroots economic growth and equitable sustainable development (Kobia, Katwalo & Kiraka, 2015). Increasing the number of women entrepreneurs involved in starting new businesses is critical for a country's long-term economic growth. In addition to their economic and income-generating activities, women assume multi-faceted roles in society, as breadwinner of a family, unpaid workers, service providers in the communities and mother/care-taker of the family in spite of their important contributions to socio-economic development; women suffer from various constraints, which inhibit them from fully realizing their potential for development (Liliane & Mbabazi, 2015).

Africa has enormous unexploited potential, especially the potential of women. Specifically, it pointed out that women comprise one of Africa's hidden growth reserves, providing most of the region's labor, but their productivity is hampered by widespread inequality in education as well as unequal access to land and productive inputs (Maina, 2016). African women entrepreneurs follow a path that is in most cases different from entrepreneurial activities in the developed countries of the west in an attempt to find an African answer to the applicability of models and theories developed in other parts of the world. In Africa, many women tend to be in small sector microenterprises, mainly in the informal sector. It is inappropriate and undesirable for Africa to import entrepreneurial techniques wholesale from developed countries (Rena, 2016). In this context, women entrepreneurship is particularly important. Across the globe, women owned businesses account for 25 to 33 per cent of all businesses. This percentage is higher in Africa at between 40 and 50 percent and in some countries up to 60 percent. (Kobia, Katwalo & Kiraka, 2015). According to (Ullah, 2013) african women entrepreneurs are playing an increasing role in diversifying production and services in African economies. Fostering women's entrepreneurship development is crucial for the achievement of Africa's broader development objectives, including economic development and growth. Additionally, by providing a way of circumventing the proverbial 'glass ceiling', entrepreneurship opens up opportunities for leadership, self-development and empowerment that women do not find in large enterprises.

In east Africa Women-owned businesses in Kenya are making a significant contribution to the Kenyan economy. Their businesses account for about one-half (48 percent) of all micro-, small-, and medium-sized enterprises (MSMEs), which contribute around 20 percent to Kenya's GDP. Of the 462,000 jobs created annually since 2000 in Kenya, 445,000 jobs have come from the informal sector, where 85 percent of women's businesses are found while in Tanzania Women entrepreneurs still remain disadvantaged compared to their male counterparts. At 80.7 percent, the labor force participation rate for women in Tanzania is slightly higher than for men, which is 79.6 percent. Yet, more than twice as many men than women are in paid jobs, with only 4 percent of women,

compared to 10 percent of men in formal employment. Women tend to predominate in agriculture and trade while men predominate in manufacturing, construction, transport and finance (Gituma, 2017). However, given a bigger population projection of 12.7 million. The government of Rwanda play a key role for entrepreneurship development for women because women can also perform better in entrepreneurship activities (Malunda, & Musana, 2012). Rwanda is world leader in promoting gender equality, in just over a decade reforms in the political and legislative arena have placed women's empowerment at the forefront of government's priorities and granted women in Rwanda sweeping rights, In that aftermath of the genocide, they were seen as key to the country's recovery and development (Liliane, & Mbabazi, 2015).

Rwanda is one of the Sub-Sahara African countries that has made greater strides in Promoting gender equality and empowerment of women as evidenced in its achievements. However, many women entrepreneurs are operating in more difficult conditions than men entrepreneurs (Bauer, 2011). The constraints that impede all entrepreneurs such as financial instability, poor infrastructure, high production costs, and non-conducive business environment, tend to impact more on businesswomen than businessmen. In addition, women's entrepreneurial development is impeded by specific constraints such as limited access to key resources (including land and credit), the legal and regulatory framework, and the socio-cultural environment. Furthermore, the combined impact of globalization, changing patterns of trade, and evolving technologies call for skills that women entrepreneurs on the continent do not for a large part possess, as many more women than men lack the requisite level of education and training, including business and technical skills and entrepreneurship training (Kiraka, 2015).

York and Venkataraman (2010), entrepreneurial dimension influence innovation and dominant firm's competitiveness within this environment. It fuels organizational growth, drives future success and is the engine that allows businesses to sustain their viability in a global economy. Firms must be able to create and commercialize a stream of new products and processes that extend the technology frontier, while at the same time

keeping a step or two ahead of their rivals. Every organization therefore needs one core competency innovation (Rosemann, & vom Brocke, 2015).

Businesses are viewed to be a fertile ground with regard to influence entrepreneurial dimensions, their advantages lay in their flexibility and less rigid organizational structures, which on average promotes a higher speed of response. As a result, SMEs generally contribute to the creation of economic and social value (Kinyua, 2014). However, their readiness and capacity to develop innovative products and services can be impeded by a common lack of financial strength as well as technical and managerial skills ( Kiraka, 2015).

Therefore, interventions need to be considered in terms of technological innovation dimension to support new product and services offering, appropriate financial packages to fund the development of such entrepreneurial dreams and managerial skills to commercialize the innovations.

The dynamic role of business in developing countries has long been recognized (Pandya, 2012,). These businesses can serve as engines through which the economic growth and employment objectives of developing countries can be achieved. However, for many years these rural businesses have failed to grow beyond their micro enterprise nature and sometimes at best their small or medium size (Pandya, (2012) SMEs face a variety of constraints owing to the difficulty of absorbing large fixed costs, the absence of economies of scale and scope in key factors of production, high unit costs, poor cash flow (Kusi, Opata, & Narh, 2015).

In order for business to overcome the several constraints that they face and grow into large corporate entities; they must be very innovative (Halme, Lindeman, & Linna, 2012). According to Halme, Lindeman, and Linna, (2012), Innovation is referred to as the use of improved products, processes, services, technologies or ideas accepted by markets, governments, and society. Innovation is not the same as invention. Innovation refers to the use of a new ideas or methods, whereas invention refers more directly to the

creation of the idea or method itself (Gokhberg, & Meissner, 2013). Business need not create a new method but adopting the new methods to make it beneficial to their specific operations. Innovation has been identified as a driver of organizations and nations as enunciated by ( Gokhberg, & Meissner, 2013) as it leads to entrepreneurship and hence economic prosperity.

Essentially, entrepreneurial dimension is holistic. It covers a range of issues necessary to provide value to customers and a good return to the organization. It is possibly best described as an all-encompassing attitude that allows businesses to see beyond the present and create the future (Ferraro, & Briody, 2017). These dimensions run in reality concurrently although most academics typically want to explain them sequentially. According to Ansoms, and Rostagno (2012), the Government of Rwanda (GoR) has a vision to become a middle-income country. In order to achieve this goal, the medium term Economic Development and Poverty Reduction Strategy (EDPRS) states that it must achieve an annual GDP growth rate of 8.1% and increase off-farm employment to 30% by 2012.

Small and Medium Enterprises (SMEs) and micro enterprises in Organization for Economic Cooperation and Development (OECD) countries account for over 95% of all firms, 60-70% of employment and 55% of GDP and create the majority of new jobs, indicating the impact SMEs have on employment. In contrast, currently over 80% of Rwandans are engaged in agricultural production. The SME sector, including formal and informal businesses, comprises 98% of the businesses in Rwanda and 41% of all private sector employment — though the formalized sector has much growth potential with only 300,000 currently employed. Most micro and small business employ up to four people, showing that growth in the sector would create significant private sector non-agricultural employment opportunities. Davenport, (2005) as also articulated by (Rocha, 2012). The GoR's vision is to increase the role of value-added exports to increase export revenue and reduce the import-export gap. Fisher and Reuber (2011), The GoR is dependent on external grants and borrowing for 48% of government revenue. The GoR seeks to reduce its dependency on foreign aid and debt by increasing internal tax revenue. Tax revenues

increased by 10% in 2009 compared to the previous year, largely from the collection of Value Added Tax (VAT). According to a study by the Institute for Policy Analysis and Research (IPAR), Small and medium businesses currently generate 4.9 billion RwF in annual tax revenue. Of the estimated 72,000 SMEs in the country 25,000 are registered and of those registered only 24% pay tax on a regular basis. In addition to expanding the export sector, small and medium business also represent a potential source of tax revenue, thus reducing Rwanda's dependence on foreign assistance.

Business in Rwanda have remained less competitive compared to regional neighbors and if no effort is made to make them more competitive, this situation is likely to worsen with the full-fledged East African Community (EAC) common market, which Rwanda has joined. Making existing and new Rwandan SMEs more competitive in value added exports is therefore one among other vital actions necessary to reverse the trade imbalance and build competitiveness.

### **1.1.1. Global perspective on entrepreneurial dimensions and growth**

According to Maysami et al. (2010) found that in general, the most common start-up problems for women micro business seem to be lack of capital, skills and innovative ideals Vinze (2007) studied the socio-economic background and the factors that contributed to entry into business of women entrepreneurs in Delhi. Corroborating with above findings, she highlighted the cultural aspects. It is harder for women to take "calculated risks" that are essential to entrepreneurship, as they are the custodians of society in the maintenance of cherished values, habits, and accepted norms of conduct. Most of the developing countries have witnessed an influx of the number of women venturing in the field of entrepreneurship in recent years; this mainly being attributed to advocacy on women empowerment programs and policies advanced by both government and non-governmental organizations. Studies have found that entrepreneurial development has been a panacea for poverty alleviation among the fastest growing economies of developing countries (Efe, 2014). A report by World Bank (2009) indicated that women entrepreneurs comprise about a half of human resources in

developing economies. The report also identifies women entrepreneurs as key facilitators of micro economic development and sustainability in their communities. Studies also indicate that majority of women entrepreneurs own SMEs in developing countries (Gichuki et al., 2014). This is an Open Access article distributed under the terms of the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly credited.

### **1.1.2. Regional perspective on entrepreneurial dimensions and growth**

Gichuki *et al.* (2014) cited significant contribution to growth domestic production (GDP) and improving income of their households cannot be ignored. Ghosh (2009) in spite of the success stories recorded on the increase of women entrepreneurship in developing countries, the literature on women micro businesses in Africa literally depict women-owned micro and small enterprises as being under financed and thus continue to record poor performance and sustainability compared to male owned SMEs (Richard, 2004). Only 30% of the small firms in Sub-Saharan African countries have access to affordable and proper financial capital (Beck et al., 2009).

Lack of collateral requirements, culture, training gaps, low income, problems in filing tax repayment reports and unsound business plans are some of the major reasons for the unwillingness of the formal banks lending credit, to majority of entrepreneurs who own micro and small enterprise (Sacerdoti, 2011). Stevenson and St-Onge (2011) observed that women entrepreneurs in Sub-Saharan Africa are even more disadvantaged when accessing credit from commercial banks because they lack control of family resources like land which can be used as collateral to acquire loans for expanding of their micro enterprises.

A cursory review on the characteristics of enterprises in sub Saharan Africa shows that significant or dominant share of small micro enterprises are operated from informal sector (Mwobobia, 2012). Women entrepreneurs in particular prefer to start micro

enterprises related to food vending, hair making, tailoring of garments and running merchandised shop in retail and wholesale. The informal sector is more lucrative to women because less intensive capital is needed to establish the enterprises and no special skills are required (Fuchs & Berg, 2013). However, it is further observed that among Sub-Saharan African countries, women entrepreneurs not only face credit access challenge, but also have low education levels, lack entrepreneurial training and experience to effectively manage enterprises. The purpose of this paper is to determine the influence of entrepreneurial dimensions on the growth of women micro business in Rwanda.

### **1.1.3. Entrepreneurial dimensions and growth in Rwanda.**

After the Tutsi Genocide of 1994, Rwanda efforts have been directed towards the poverty eradication, economic growth and development, through agriculture commercialization, tourism and industrialization through private sector foundation and entrepreneurship, the country has focused on sustainable development coupled with small business development (Oliveira, 2017). Community's performance towards poverty eradication, has occupied a prominent place and the parties to the community especially women must be part of this fight if economic hindrances of poverty are to be eradicated from societies because women are the back bone of the society. In spite of several initiatives undertaken by the government of Rwanda to address constraints facing women micro businesses, some bottlenecks persist such as lack of collateral requirements, culture aspects, training gaps, low income (Walker, 2011). According to Laetitia et al, (2003), the inability of the SMEs to meet the standard of the formal financial institutions for loan consideration in Rwanda provides a platform for informal institutions to attempt to fill the gap usually based on informal social networks.

## **1.2. Statement of the Problem**

According to Apak and Atay, (2014) micro business are critical to the development of any economy as they usually form the bulk of economic activity and most of these micro

business do not survive their second “birthday” because of certain challenges and given the performance of Rwanda women entrepreneurs in the growth of the economy there are still constraints include lack of financial capital, lack of innovations, market-based challenges, and human resource challenges. Bell, and Stellingwerf, (2012), despite all these constraints, women in Rwanda are key players in economic and social development. Various scholars have propounded on the ability of organizations to influence entrepreneurial dimension as being critical to firm growth. As a result, current research no longer defends the importance of entrepreneurial dimension but focuses instead on entrepreneurial growth and managing people, market, technology, products and sources of supply (Elmqvist et al., 2009; Balan & Lindsay 2010; Surani 2013). Despite its recognition by academics as being of increasing significance to growth, entrepreneurial dimension remains an underdeveloped area lacking in empirical research (Smith & Fishbacher, 2005). Studies in MI have mostly been done in developed countries (Sawang, 2009) those undertaken in developing countries have mostly looked at the manufacturing sector, and more recently at the financial sector and at larger hotel chains (Roberts & Amit, 2003). In the global economy women are an emerging force that policy makers cannot afford to ignore. Enhancing levels of innovation and entrepreneurship to grow a more competitive economy is the focus of much government effort (Nteere, Namusonge & Mukulu, 2012) Increasing entrepreneurship among women and providing needed capital to women entrepreneurs are decisive components in Africa's long-term struggle for prosperity. Women in entrepreneurship has been largely neglected both in society in general and in the social sciences (Novo-Corti, Varela-Candamio, & García-Álvarez, 2014). In-depth information on the share of women as owners of micro, small and medium businesses, the area of concentration, challenges, and opportunities and strengths and weaknesses of their economic associations and networking is limited. Even though women entrepreneurs in small and medium business account the greatest proportion of total entrepreneurs in the country as a whole and in Rwanda in particular, there is an acute shortage of studies conducted with a specific objective of analyzing the problems of enterprises operated by women in terms of personal and organizational-related challenges, economic, social-cultural, and legal-

administrative. From these researches it can be noted that there is a dearth of empirical research on influence of entrepreneurial dimensions on growth of women micro business in Rwanda, therefore, this research aims at filling this gap in literature. It is against this background that the researcher carried out a research on influence of entrepreneurial dimensions on growth of women micro businesses in Rwanda.

### **1.3. Objectives of the Study**

#### **1.3.1. General Objective**

The general objective was to determine the influence of entrepreneurial dimensions on growth of women micro businesses in Rwanda.

#### **1.3.2. Specific Objectives**

1. To identify the influence of innovation on growth of women micro business in Rwanda.
2. To examine entrepreneurial finance on growth of women micro businesses in Rwanda.
3. To identify the influence of entrepreneurial training on growth of women micro businesses in Rwanda.
4. To establish the effects of entrepreneurial awareness on growth of women micro businesses in Rwanda.

### **1.4. Research Questions**

1. What is the influence of innovation on growth of women micro business in Rwanda?
2. What is the influence of entrepreneurial finance on growth of women micro business in Rwanda?
3. What is the influence of entrepreneurial training on growth of women micro business in Rwanda?

4. What is the influence of entrepreneurial awareness on growth of women micro business in Rwanda?

### **1.5. Research Hypotheses**

A hypothesis is a tentative assumption or preliminary statement about the relationship between two or more things that needs to be examined (Welma et al., 2005). It is a premade statement of the results of an investigation indicating the relationship between two or more variables that await verification. The researcher used hypothesis because of their importance in bringing clarity, specificity and focus to a research study (Kumar, 2005). In this study, the researcher formulated the following hypotheses to affirm the creditability of the study.

**H<sub>01</sub>:** There is no influence of innovation on growth of women micro businesses in Rwanda.

**H<sub>02</sub>:** There is no influence of entrepreneurial finance on growth of women micro business in Rwanda.

**H<sub>03</sub>:** There is no influence of entrepreneurial training on growth of women micro businesses in Rwanda.

**H<sub>04</sub>:** There is no influence of entrepreneurial awareness on growth of women micro business in Rwanda.

### **1.6. Justification of the Study**

This study provided information for all women micro businesses. This helped in designing and implementing effective and efficient services activities directed towards women micro business so that the benefits of micro business can be realized. This current research added to the current growing literature on women entrepreneurship, women and business growth and entrepreneurship education. The research findings had

impact on policies regarding micro business support for female entrepreneurs, enterprise education in general and specifically enterprise education for female entrepreneurs and business owners. This research also had impact on the way academicians strategically viewed, designed and delivered entrepreneurship programmes to female entrepreneurs and business owners for better performance, having looked at the challenges that face women micro businesses. The study was useful to the various financial intermediaries like the banking institutions in developing new financial products that is relevant to rural micro women enterprises and low-income households. With the increase in banks this addresses the relevant bank products which suit women owned enterprises. The study was also relevant to the insurance sector as it addressed on the issues of net worth patterns and products that were relevant for women micro business.

### **1.7. Significance of the Study**

The women micro businesses used the findings as the bases upon which to review their performance. Necessary improvements identified were undertaken to enhance strategic decision making at the district level. The findings were also used by other institutions in helping to boosting performance of women micro business in Rwanda.

To policy Makers, this study had policy implications and recommendations which was used by government policy makers in structuring policies to create an enabling environment for women micro businesses operations in the country.

Investors, this study will also help the investors in the making of appropriate decisions that consider investing in women micro business as critical driving force to spur economic growth of the region and the country as whole. Investor's decisions and interventions in women micro business that are viable for the development on enhancement of growth and this in turn enhance their living standards, liquidity level and the general growth of the women micro business.

Scholars and researchers shall find this study quite of interest, the findings of this study will enrich existing knowledge and hence may be of interest to both researchers and academicians who seek to explore and carry out further investigations.

The study also added value to the existing body of knowledge as it developed a model to link the independent variables to the dependent variables.

### **1.8. Scope of the Study**

The study addressed entrepreneurial dimensions on growth of women micro business in Rwanda. The research was carried out in Bugesera district in fifteen sectors (15) namely; Gashora, Juru, Kamabuye, Ntarama, Mareba, Mayange, Musenyi, Mwogo, Ngeruka, Nyamata, Nyarugenge, Rilima, Ruhuha, Rweru and Shyara. The study targeted population of 8,629 women micro business registered within the district data base (1st January 2017). A sample size of 324 women micro businesses was selected from the target population. The study did not cover all districts due to economic and logistical resource constrain. The study targeted responses from lower, middle and top managers, both primary and secondary data were used to collect data. Therefore, the study undertaken in the district was a good representation of most businesses run by women in the country and east Africa community. The study was relevant in the aspects of entrepreneurial dimensions and its influence on growth of women micro businesses in Rwanda.

### **1.9. Limitation of the Study**

The researcher encountered a number of challenges when undertaking the study. However, the limitations did not have a significant interference with the outcome of the study. However, the use of self-administered questionnaire was a limiting factor in terms of respondents getting the time and understanding the questions for which answers were being sought. The challenge was however reduced as the research assistants were able to make follow-ups and clarify the questions that respondents were not able to comprehend

or answer. This greatly reduced the number of unfilled sections in the questionnaires and increased the response rate. The distance covered within these sectors was a challenge, but it was made possible by hiring and training research assistance to assist on the task.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1. Introduction**

In this chapter, the researcher reviewed literature related to entrepreneurial dimensions on growth of women micro business in Rwanda. It considered conditions necessary for entrepreneurial dimensions in micro businesses which are; innovation, entrepreneurial finance, entrepreneurial training and entrepreneurial awareness. It also provided the existing knowledge gap in the area of study.

#### **2.2. Theoretical framework**

The theoretical underpinning of this study is enriched by the under mentioned theories. These theories informed the study variables that formed the conceptual framework. The theory includes: Diffusion of Innovation theory (DOI), Entrepreneurial finance theory, tradeoff theory and Knowledge spillover theory.

##### **2.2.1. Innovation theory**

Diffusion of Innovation (DOI) Theory, developed by Rogers, (2010) is one of the oldest social science theories. It originated in communication to explain how, over time, an idea or product gains momentum and diffuses (or spreads) through a specific population or social system. The end result of this diffusion is that people, as part of a social system, adopt a new idea, behavior, or product. Adoption means that a person does something differently than what they had previously (purchase or use a new product, acquire and perform a new behavior). The key to adoption is that the person must perceive the idea, behavior, or product as new or innovative. It is through this that diffusion is possible.

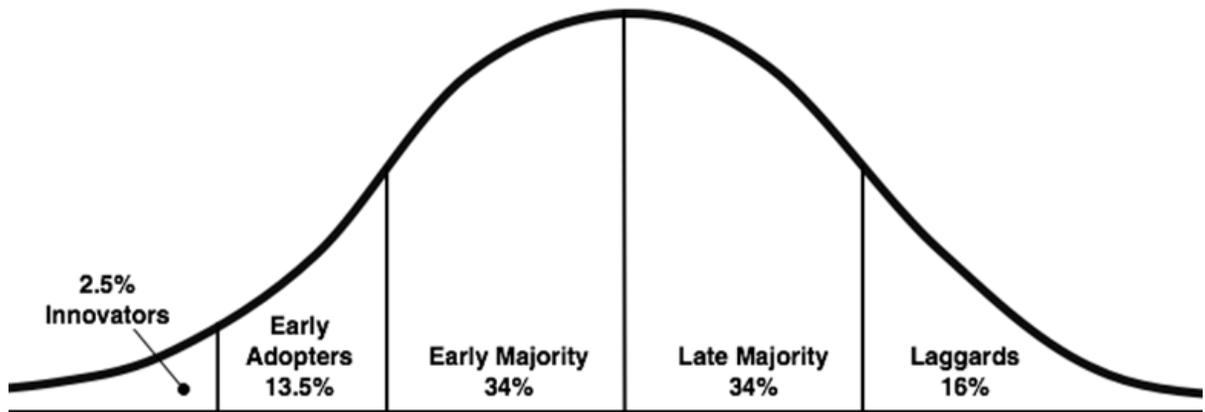
According to Sarooghi and Libaers (2015) adoption of a new idea, behavior, or product (innovation) does not happen simultaneously in a social system; rather it is a process whereby some people are more apt to adopt the innovation than others. Researchers have found that people who adopt an innovation early have different characteristics than people who adopt an innovation later. When promoting an innovation to a target population, it is important to understand the characteristics of the target population that will help or hinder adoption of the innovation.

There are five established adopter categories, and while the majority of the general population tends to fall in the middle categories, it is still necessary to understand the characteristics of the target population. When promoting an innovation, there are different strategies used to appeal to the different adopter categories, (Greenhalgh, Robert, Macfarlane, Bate, & Kyriakidou, 2004).

According to Sarooghi and Libaers (2015), Innovators are people who want to be the first to try the innovation. They are venturesome and interested in new ideas. These people are very willing to take risks and are often the first to develop new ideas. Very little, if anything, needs to be done to appeal to this population. Early Adopters, these are people who represent opinion leaders. They enjoy leadership roles and embrace change opportunities. They are already aware of the need to change and so are very comfortable adopting new ideas. Strategies to appeal to this population include how-to manuals and information sheets on implementation. They do not need information to convince them to change. Early Majority, these people are rarely leaders, but they do adopt new ideas before the average person. That said, they typically need to see evidence that the innovation works before they are willing to adopt it. Strategies to appeal to this population include success stories and evidence of the innovation's effectiveness.

According to Sarooghi and Libaers (2015), Late Majority are people are skeptical of change, and will only adopt an innovation after it has been tried by the majority. Strategies to appeal to this population include information on how many other people have tried the innovation and have adopted it successfully. Laggards, these people are

bound by tradition and very conservative. They are very skeptical of change and are the hardest group to bring on board. Strategies to appeal to this population include statistics, fear appeals, and pressure from people in the other adopter groups.



**Figure 2.1: The Diffusion of Innovation (DOI) model**

**Source:** Diffusion of Innovation theory (2003)

The stages by which a person adopts an innovation, and whereby diffusion is accomplished, include awareness of the need for an innovation, decision to adopt (or reject) the innovation, initial use of the innovation to test it, and continued use of the innovation. There are five main factors that influence adoption of an innovation, and each of these factors is at play to a different extent in the five adopter categories.

Relative Advantage - The degree to which an innovation is seen as better than the idea, program, or product it replaces. Compatibility, how consistent the innovation is with the values, experiences, and needs of the potential adopters. Complexity, how difficult the innovation is to understand and/or use, the extent to which the innovation can be tested or experimented with before a commitment to adopt is made. Observability, the extent to which the innovation provides tangible results.

This theory has been used successfully in many fields including entrepreneurship, Business administration, communication, agriculture, criminal justice, social work, and marketing. In entrepreneurship and business, Diffusion of Innovation Theory is used to accelerate the adoption of important entrepreneurship programs that typically aim to change the behavior of a social system. For example, an intervention to address innovation challenge is developed, and the intervention is promoted to people in a social system with the goal of adoption (based on Diffusion of Innovation Theory).

The most successful adoption of entrepreneurship program results from understanding the target population and the factors influencing their rate of adoption. In the past 100 years innovation management more than any other factor has allowed companies such as apple computers, Google and Toyota to cross new performance thresh holds (Munene,2017). Women entrepreneurs should borrow from said companies. They should take time to diagnose and assess their company's innovation capabilities before initiating ideas. The consequences of not doing so will lead in approaches failing to fit in the cultural aspects of the organizations, skill level of teams and expected contribution to the company's objectives (Munene, 2017). This theory covered the general hypothesis of the study which is the null hypothesis that there is no influence of innovation on growth of women micro business in Rwanda.

### **2.2.2. Financial - Theory**

Empirical research has showed that the founding of new firms is more common when people have access to financial capital (Blanch flower et al., 2001). By implication this theory suggests that people with financial capital are more able to acquire resources to effectively exploit entrepreneurial opportunities and set up a firm to do so (Clausen, 2009). However, other studies contest this theory as it is demonstrated that most founders start new ventures without much capital, and that financial capital is not significantly related to the probability of being nascent entrepreneurs (Aldrich et al., 2010). This apparent confusion is due to the fact that the line of research connected to the theory of liquidity constraints generally aims to resolve whether a founder's access

to capital is determined by the amount of capital employed to start a new venture (Clausen, 2009). In his view, this does not necessarily rule out the possibility of starting a firm without much capital. Therefore, founders access to capital is an important predictor of new venture growth but not necessarily important for the founding of a new venture (Hurst & Lusardi, 2009). This theory argues that entrepreneurs have individual-specific resources that facilitate the recognition of new opportunities and the assembling of new resources for the emerging firm (Alvarez & Busenitz, 2009). Research shows that some persons are more able to recognize and exploit opportunities than others because they have better access to information and knowledge (Aldrich *et al.*, 2010). This theory is in line with the research hypothesis which states that there is no influence of entrepreneurial finance on growth of women micro business in Rwanda.

### **2.2.3. Entrepreneurial training theory**

Senge, and Scharmer, (2008), developed the notion of a learning organization. This conceptualizes organizations as dynamic systems in states of continuous adaptation and improvement through entrepreneur training. According to Senge, and Scharmer, (2008) suggested that, real firms in real markets face both opportunities and natural limits to their development. Most efforts to change are hampered by resistance created by the cultural habits of the prevailing system. No amount of expert advice is useful. It's essential to develop reflection and inquiry skills so that the real problems can be discussed. According to Senge, and Scharmer, (2008), there are four challenges in initiating changes. There must be a compelling case for change, there must be time to change, there must be help during the change process, as the perceived barriers to change are removed, it is important that some new problem, not before considered important or perhaps not even recognized, doesn't become a critical barrier.

According to Senge, and Scharmer, (2008) learning organizations are those organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole

together. He argues that only those organizations that are able to adapt quickly and effectively will be able to excel in their field or market. In order to be a learning organization, there must be two conditions present at all times. The first is the ability to design the organization to match the intended or desired outcomes, and second, the ability to recognize when the initial direction of the organization is different from the desired outcome and follow the necessary steps to correct this mismatch. Organizations that are able to do this are exemplary.

Senge, and Scharmer, (2008) also believed in the theory of systems thinking which has sometimes been referred to as the 'Cornerstone' of the learning organization. Systems thinking focuses on how the individual that is being studied interacts with the other constituents of the system. Rather than focusing on the individuals within an organization, it prefers to look at a larger number of interactions within the organization and in between organizations as a whole. The following attempt to articulate those aspects of System Thinking not contained within Systems Theory or Systemic Perspectives; Everything is connected to everything else, Life evolves toward greater connectivity and complexity, the future is in principle unpredictable. Minute disturbances can cause large differences (the butterfly effect), the universe is one (Zen), Spirituality and science are one unity (Eastern religions), Man and nature are inseparable (Bateson, 2014).

In business enterprise, a learning organization facilitates the learning of its members and continuously transforms itself. Senge, and Scharmer, (2008) Learning organizations develop as a result of the pressures facing modern organizations and enables them to remain competitive in the business environment. Senge, and Scharmer, (2008) stated that a learning organization is a group of people working together collectively to enhance their capacities to create results they really care about. According Senge, and Scharmer, (2008) learning organization passes through the following five characteristics.

According to Senge, (1996) Systems thinking is the idea of the learning organization developed from a body of work called systems thinking. This is a conceptual framework

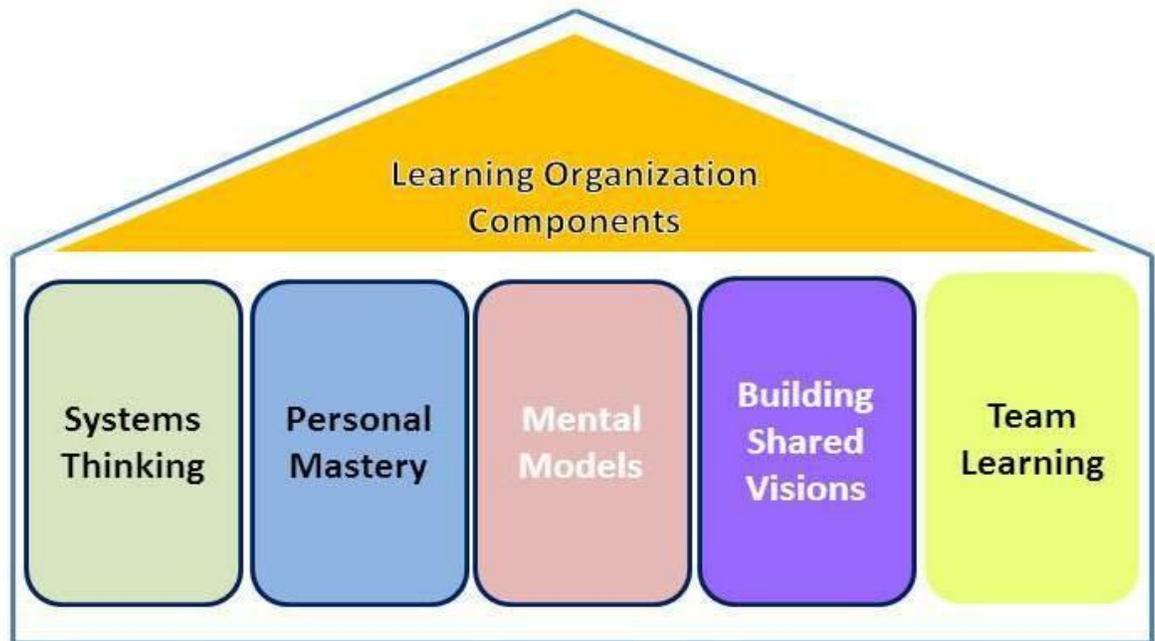
that allows people to study businesses as bounded objects. Learning organizations use this method of thinking when assessing their company and have information systems that measure the performance of the organization as a whole and of its various components. Systems thinking states that all the characteristics must be apparent at once in an organization for it to be a learning organization. If some of these characteristics are missing then, the organization will fall short of its goal. However, O'Keefe believes that the characteristics of a learning organization are factors that are gradually acquired, rather than developed simultaneously (Senge, 2006).

Personal mastery, the commitment by an individual to the process of learning is known as personal mastery. There is a competitive advantage for an organization whose workforce can learn more quickly than the workforce of other organizations. Individual learning is acquired through staff training, development and continuous self-improvement; however, learning cannot be forced upon an individual who is not receptive to learning. Research shows that most learning in the workplace is incidental, rather than the product of formal training, therefore it is important to develop a culture where personal mastery is practiced in daily life (Senge, 2006). A learning organization has been described as the sum of individual learning, but there must be mechanisms for individual learning to be transferred into organizational learning.

Mental models, the assumptions held by individuals and organizations are called mental models (Kieras & Bovair, 1984). To become a learning organization, these models must be challenged. Individuals tend to espouse theories, which are what they intend to follow, and theories-in-use, which are what they actually do. Similarly, organizations tend to have 'memories' which preserve certain behaviours, norms and values. In creating a learning environment, it is important to replace confrontational attitudes with an open culture that promotes inquiry and trust (Senge & Sterman, 1992). To achieve this, the learning organization needs mechanisms for locating and assessing organizational theories of action. Unwanted values need to be discarded in a process called 'unlearning'. Wang and Ahmed refer to this as triple loop learning.

Shared vision, the development of a shared vision is important in motivating the staff to learn, as it creates a common identity that provides focus and energy for learning. The most successful visions build on the individual visions of the employees at all levels of the organization, thus the creation of a shared vision can be hindered by traditional structures where the company vision is imposed from above (Senge, 2006).

Therefore, learning organizations tend to have flat, decentralized organizational structures. The shared vision is often to succeed against a competitor; however, Senge, (2006), states that these are transitory goals and suggests that there should also be long-term goals that are intrinsic within the company. Team learning. The accumulation of individual learning constitutes team learning. The benefit of team or shared learning is that staff grow more quickly, and the problem-solving capacity of the organization is improved through better access to knowledge and expertise. Learning organizations have structures that facilitate team learning with features such as boundary crossing and openness. Team learning requires individuals to engage in dialogue and discussion; therefore, team members must develop open communication, shared meaning, and shared understanding. Learning organizations typically have excellent knowledge management structures, allowing creation, acquisition, dissemination, and implementation of this knowledge in the organization. This combination encourages organizations to shift to a more interconnected way of thinking. Organizations should become more like communities that employees can feel a commitment (Senge et al., 2004).



**Figure 2.2: The practice of learning organization model**

Source: The practice of learning organization model (2004)

Organizations do not organically develop into learning organizations; there are factors prompting their change. As organizations grow, they lose their capacity to learn as company structures and individual thinking becomes rigid. When problems arise, the proposed solutions often turn out to be only short-term (single-loop learning instead of double-loop learning) and re-emerge in the future. To remain competitive, many organizations have restructured, with fewer people in the company. This means those who remain need to work more effectively. To create a competitive advantage, companies need to learn faster than their competitors and to develop a customer responsive culture. According to Senge et al. (2004). Organizations need to maintain knowledge about new products and processes, understand what is happening in the outside environment and produce creative solutions using the knowledge and skills of all within the organization. This requires co-operation between individuals and groups, free and reliable communication, and a culture of trust. The main benefits are; Maintaining levels of innovation and remaining competitive, being better placed to respond to

external pressures, having the knowledge to better link resources to customer needs, improving quality of outputs at all levels, Improving corporate image by becoming more people oriented, increasing the pace of change within the organization.

Even within or without learning organization, problems can stall the process of learning or cause it. Most of them arise from an organization not fully embracing all the necessary facets. Once these problems can be identified, work can begin on improving them. Some organizations find it hard to embrace personal mastery because as a concept it is intangible, and the benefits cannot be quantified; personal mastery can even be seen as a threat to the organization. This threat can be real, as Senge (2006) points out, that 'to empower people in an unaligned organization can be counterproductive'. In other words, if individuals do not engage with a shared vision, personal mastery could be used to advance their own personal visions. In some organizations, a lack of a learning culture can be a barrier to learning. An environment must be created where individuals can share learning without it being devalued and ignored, so more people can benefit from their knowledge and the individuals becomes empowered. A learning organization needs to fully accept the removal of traditional hierarchical structures.

Resistance to learning can occur within a learning organization if there is not sufficient buy-in at an individual level. This is often encountered with people who feel threatened by change or believe that they have the most to lose. They are likely to have closed mind sets, and are not willing to engage with mental models. Unless implemented coherently across the organization, learning can be viewed as elitist and restricted to senior levels. In that case, learning will not be viewed as a shared vision Senge (2006). If training and development is compulsory, it can be viewed as a form of control, rather than as personal development. Learning and the pursuit of personal mastery needs to be an individual choice, therefore enforced take-up will not work.

In addition, organizational size may become the barrier to internal knowledge sharing. When the number of employees exceeds 150, internal knowledge sharing dramatically decreases because of higher complexity in the formal organizational structure, weaker

inter-employee relationships, lower trust, reduced connective efficacy, and less effective communication.

As such, as the size of an organizational unit increases, the effectiveness of internal knowledge flows dramatically diminishes and the degree of intra-organizational knowledge sharing decreases.

Problems with Senge's vision include a failure to fully appreciate and incorporate the imperatives that animate modern organizations; the relative sophistication of the thinking he requires of managers (and whether many in practice are up to it); and questions regarding his treatment of organizational politics. It is certainly difficult to find real-life examples of learning organizations (Crnogaj 2015). There has also been a lack of critical analysis of the theoretical framework.

Based on their study Bartlett et al. (2002). provide a useful listing of more important shortcomings of the learning organization concept. They conclude that it is not possible to transform a bureaucratic organization by learning initiatives alone. They believe that by referring to the notion of the learning organization it was possible to make change less threatening and more acceptable to participants. 'However, individual and collective learning, which has undoubtedly taken place, has not really been connected to organizational change and transformation'. Part of the issue, they suggest, has to do with the concept of the learning organization itself. This theory is in line with the research hypothesis which states that there is no influence of entrepreneurial training on growth of women micro business in Rwanda

#### **2.2.4. The entrepreneurial awareness theory**

Knowledge spillover theory of entrepreneurship, Contemporary theories of entrepreneurship generally focus on the recognition of opportunities and the decision to exploit them Audretsch, and Keilbach, (2007). Although the entrepreneurship literature

treats opportunities as exogenous, the prevailing theory of economic growth suggests they are endogenous.

The microeconomic foundations of endogenous growth theory by developing a knowledge spillover theory of entrepreneurship, according to Acs, Audretsch, and Lehmann, (2013), knowledge created endogenously results in knowledge spillovers, which allow entrepreneurs to identify and exploit opportunities.

The endogenous growth framework offers no insight into what role, if any, entrepreneurial activity plays in the intra-temporal spillover of tacit knowledge. While the new growth theory enhances our understanding of the growth process, the essence of the Galunic, and Rodan, (1998), as entrepreneur is missed, endogenous growth models fail to incorporate a crucial element in the process of economic growth. Transmission of knowledge spillovers through entrepreneurship (Audretsch, & Keilbach, 2007). This implies that knowledge by itself is only a necessary condition for the exercise of successful enterprise in a growth model. An interesting approach recently focuses on the allocation of societal resources spent on research and development of entrepreneurship. Michelacci (2002) concludes that low rates of return to research and development may be due to lack of entrepreneurial skills. Hence, the ability to transform new knowledge into economic opportunities involves a set of skills, aptitudes, insights and circumstances that is neither uniformly nor widely distributed in the population.

The knowledge spillover theory of entrepreneurship improves the microeconomic foundations of endogenous growth models, in which the creation of knowledge expands technological opportunity Acs, Braunerhjelm, Audretsch, and Carlsson, (2010) the theory shifts the unit of analysis from exogenously assumed firms to individual agents with new knowledge endowments. Agents with new economic knowledge endogenously pursue the exploitation of such knowledge, implying that the existing stock of knowledge yields spillovers. This further suggests a strong relationship between such knowledge spillovers and entrepreneurial activity. The theory provides an explanation for the role of the individual and the firm in an economy. According to Romer, and

Chow, (1996), such an approach removes the dead end in neoclassical theory and links microeconomic observations on routines, machine designs, and the like with macroeconomic discussions of technology. The knowledge spillovers as a source of entrepreneurial opportunity in the endogenous growth framework.

Knowledge spillovers as source of entrepreneurial opportunity, in order to enable more realistic applicability, the theory relaxes two central assumptions of the endogenous growth model. The first is that all knowledge is economic knowledge. Arrow. (1962), emphasized knowledge as inherently different from traditional factors of production, resulting in a gap between new knowledge ( $K$ ) and what he termed economic knowledge ( $K_c$ ). The second assumption is the assumed spillover of knowledge. In endogenous growth models, the existence of the factor of knowledge is equated with inter-temporal spillover, which yields endogenous growth. In our model, we assume intra-temporal knowledge spillovers from incumbent organizations to start-ups. Moreover, institutions impose a gap between knowledge and economic knowledge ( $0 < K_c/K < 1$ ), yielding a lower volume of intra-temporal knowledge spillovers Acs, Audretsch, and Lehmann, (2013).

Romer, and Chow (1996), separates economically useful scientific-technological knowledge into two parts: The total set of knowledge consists of non-rival, partially excludable knowledge elements, and the rival, excludable elements of knowledge. Codified knowledge published in books, scientific papers or patent documentations belongs to the first set. This can be only partially excludable: The right of applying a technology for production of a particular good is guaranteed by patenting, but the same technology can be used in other applications as others learn from the patent documentation. Rival, excludable knowledge elements comprise personalized (tacit) knowledge of individuals and groups, including experiences and insights of researchers and business people. This does not go far enough. In the model proposed by Romer (1990), the movement of knowledge from firms producing it to other firms is exogenous. That model explains the effect of knowledge spillovers on technological change without elaborating why or how these spillovers occur.

The entrepreneurship play an important role in the intra-temporal spillover of knowledge, new knowledge is characterized by greater uncertainty and asymmetry than other economic goods. Therefore, both the mean expected value of any new idea and its variance will differ across economic agents. If an incumbent firm decides the expected economic value of a new idea is not sufficiently high to warrant its development and commercialization, other economic agents may (or may not) assign a higher expected value to the idea. These agents can operate within or outside of the incumbent firm. This divergence in expected valuation can lead to market entry by economic agents to appropriate new knowledge. The knowledge that induces the decision to start new firms is generated by net worth s made by an incumbent firm. Thus, the start-up serves as the mechanism through which knowledge spills over from sources that produced it (such as a university or research laboratory in an incumbent firm) to a new organizational form where it is actually commercialized.

One way to reconcile the difference in the role of opportunities in models of entrepreneurship and endogenous growth models is the unit of analysis. Most models of entrepreneurship focus on the individual as the decision-making unit of analysis, whereas the literature on endogenous growth focuses on the firm as the decision-making unit of analysis. In such theories, the firm is exogenous, but its role in generating technological change is endogenous. Therefore, our theory focuses not on exogenously assumed firms, but rather, on the individual agent endowed with new economic knowledge.

In the knowledge spillover theory of entrepreneurship, the knowledge production function is reversed. The agent decides to start a new firm based on expected net return from a new product. Accordingly, the inventor would expect compensation for the future value of the potential innovation. In both cases, the employee in the incumbent firm will weigh the alternative of starting a new firm. If expected return from commercialization is sufficiently different for the inventor and for the incumbent decision-maker, and if the cost of starting a new firm is sufficiently low, the employee may choose to leave the incumbent firm to start a new firm. These start-ups typically do not have direct access to

a large R&D laboratory. Rather, they rely on knowledge and experience gained in R&D laboratories of previous employers, i.e., the incumbents. This theory covered the general hypothesis of the study which is the null hypothesis that there is no influence of entrepreneurial awareness on growth of women micro business in Rwanda.

### **2.2.5. The Growth theory**

In neo-classical growth models, the long-run rate of growth is exogenously determined by either the savings rate (the Harrod–Domar model) or the rate of technical progress (Solow model). However, the savings rate and rate of technological progress remain unexplained. Endogenous growth theory tries to overcome this shortcoming by building macroeconomic models out of microeconomic foundations. Households are assumed to maximize utility subject to budget constraints while firms maximize profits, networth and sales turnover. Crucial importance is usually given to the production of new technologies and human capital. The engine for growth can be as simple as a constant return to scale production function (the AK model) or more complicated set ups with spillover effects (spillovers are positive externalities, benefits that are attributed to costs from other firms), increasing numbers of goods, increasing qualities, which in longrun will influence sales turnover and profit.

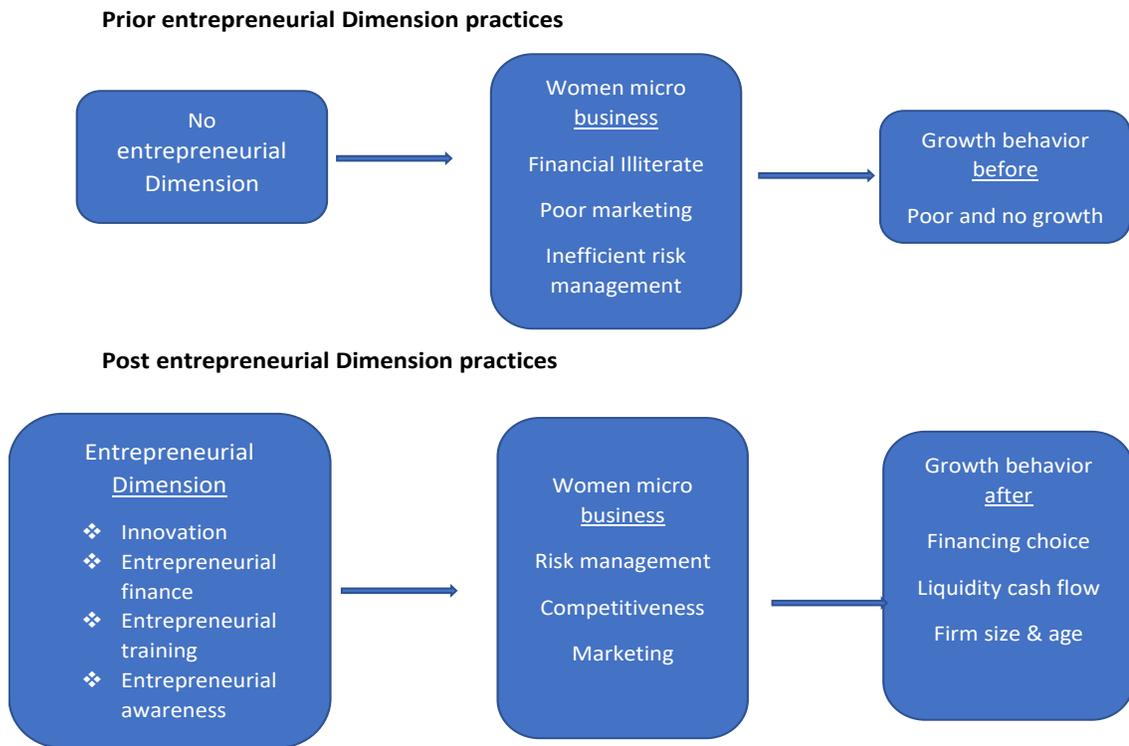
Often endogenous growth theory assumes constant marginal product of capital at the aggregate level, or at least that the limit of the marginal product of capital does not tend towards zero. This does not imply that larger firms will be more productive than small ones, because at the firm level the marginal product of capital is still diminishing. Therefore, it is possible to construct endogenous growth models with perfect competition. However, in many endogenous growth models the assumption of perfect competition is relaxed, and some degree of monopoly power is thought to exist. Generally, monopoly power in these models comes from the holding of patents. An endogenous growth theory implication is that policies that embrace openness, competition, change and innovation will promote growth. Conversely, policies that have the effect of restricting or slowing change by protecting or favoring particular existing

industries or firms are likely, over time, to slow growth to the disadvantage of the community.

According to Kemp (2005) Sustained economic growth is everywhere and always a process of continual transformation. The sort of economic progress that has been enjoyed by the richest nations since the Industrial Revolution would not have been possible if people had not undergone wrenching changes. Economies that cease to transform themselves are destined to fall off the path of economic growth. The countries that most deserve the title of “developing” are not the poorest countries of the world, but the richest. They need to engage in the never-ending process of economic development if they are to enjoy continued prosperity.

#### **2.2.6. The prior and post assessment of Entrepreneurial Dimension practices**

Entrepreneurs seek profit opportunities and therefore introduce ‘new combinations’ or innovations (Van Praag, 2011) there is a need to assess behavior attributes prior and post entrepreneurial dimension practices. Behavior attributes prior entrepreneurial dimension practices includes finance illiterate, poor marketing, inefficient awareness and this plays a negative role in business growth while post entrepreneurial dimension practices include innovation, financing, training and awareness and this contribute positively on growth of business. Ultimately this will affect growth behavior as illustrated in diagram below. Many endogenous growth theories that have been developed more recently are based on the Schumpeterian model of growth through creative destruction (Aghion & Howitt, 2009) and thus assign a central role to entrepreneurship for growth.



**Figure 2.1: Entrepreneurial Dimension Practices**

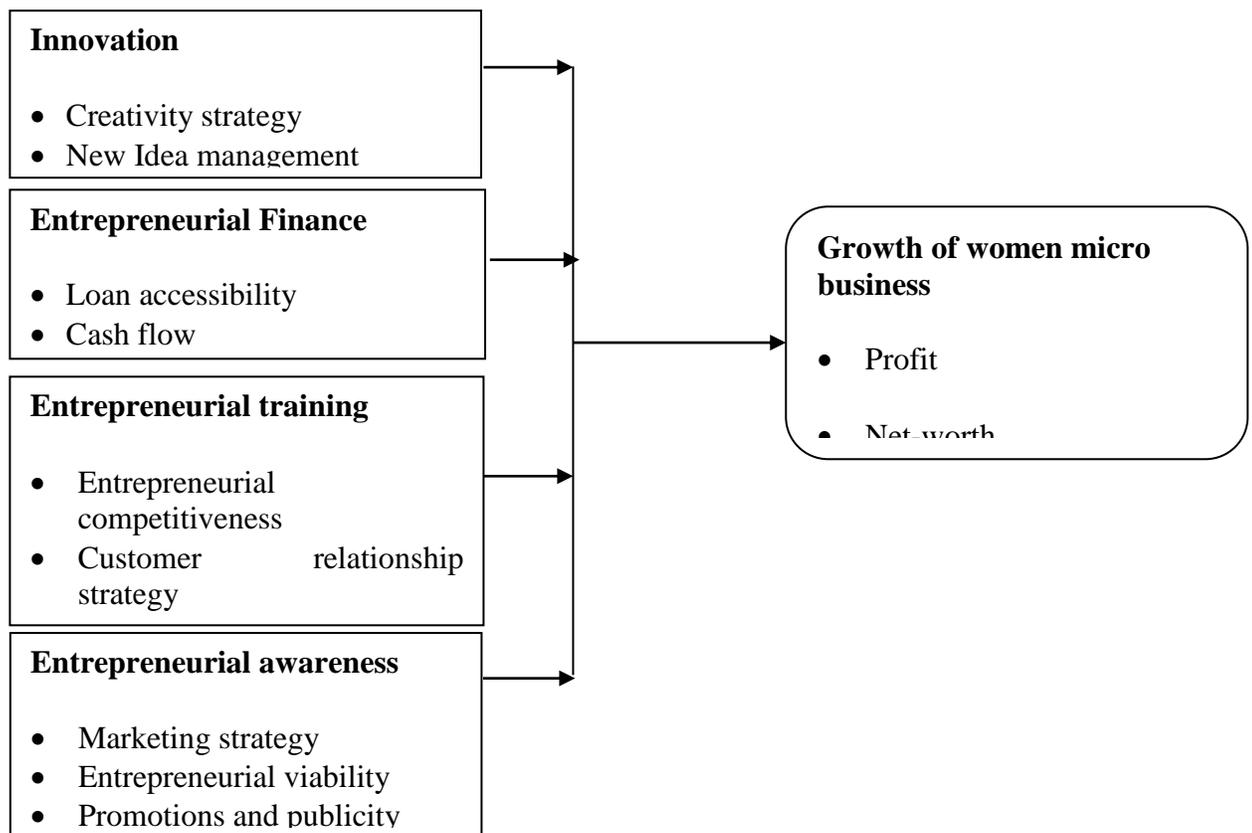
### 2.3. Conceptual Framework

To comply with previous studies on entrepreneurial dimensions, the main variables was conceptualized in the following figure 2.3 that link the relationship between entrepreneurial dimensions and growth of women micro business in Rwanda. It has been realized that all other studies were not clearly addressing entrepreneurial dimensions particularly variables such as innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness and growth of women micro business thus a deep assessment was needed to address the gap.

In order to show the existing relationship, the independent variables are innovations, entrepreneurial training, entrepreneurial awareness and entrepreneurial finance, measurements for the individual constructs are also captured in the conceptual framework.

**Independent variables**

**Dependent variables**



**Figure 2.2: Conceptual framework**

**2.4. Review of variables**

Dudgeon (2014) described empirical research as a way of gaining knowledge by analyzing quantitatively or qualitatively previously conducted researches. This section will cover previous studies undertaken on the dependent and independent variables as highlighted on the conceptual framework.

According to Low and Macmillan (1988), entrepreneurship can be defined as the creation of new enterprises. Many studies including Krueger's study (1994) show that entrepreneurial dimensions significantly influence growth of micro business which, in turn, significantly influences entrepreneurial growth. Given the nature and prevailing circumstance at the time, the researcher assessed and raised four important variables that structured his work and due to their vital influence in entrepreneurship sphere.

The variables under this study which were the independent variables were innovation, entrepreneurial finance, entrepreneurial training and entrepreneurial awareness. Entrepreneurial dimensions lead to growth of women micro business which was the dependent variable. This study sought to determine the influence of entrepreneurial dimensions on growth of women micro business in Rwanda.

#### **2.4.1. Innovation**

Among the early contributors to the theory is Locke and Baum (2007), who argues that Starting a business and bringing creativity in life with self-esteem and happiness have a direct link with each other. Economic growth is highly indispensable for any developing country, which can be substantiated by ensuring participation of women. Being the focal point of economic development, entrepreneurship can play an instrumental role in building the world O'Connor (2013). Entrepreneurial activities transform the ideas and creativity of aspiring women into business ventures with high potential and growth. This certainly helps in generating jobs and wealth creation, resulting into a state of well-being and increased opportunities in the country. As more and more women are getting to know the benefits of entrepreneurial activity, a silent renaissance is sweeping across all the sectors resulting in larger participation.

Mas-Tur, and Soriano, (2014), urged that innovative capability is the central basis for entrepreneur dimensions, from the ancient times innovation and entrepreneurship have fostered entrepreneur dimensions growth and have improved women entrepreneurs, the model to explain innovative clustering involves creativity, new idea management, and

risk management. As entrepreneurs are the primary carriers of innovative processes in an economy it is apparent that the process of their reconstitution (resource recombination) is of crucial importance for the reconstruction of innovative economy. However, it is a multidimensional variable comprised of several different elements within the company. Creativity strategy is a policy of turning new and imaginative ideas into reality. Creativity is characterized by the ability to perceive the world in new ways, to find hidden patterns, to make connections between seemingly unrelated phenomena, and to generate solutions. Creativity involves two processes: thinking, then producing. Rollo May, *The Courage to Create*.

Idea management is the process of collecting and growing new ideas to solve existing problems and discover new opportunities Lilien et al, (2002). It is the cornerstone of product management. It's the earliest stage of product development, where ideas are collected from around the company, evaluated and considered for the product roadmap, ideas come in different forms from around your business for instance customer feedback, feature requests, problems, product suggestions and managing these ideas means maintaining a backlog of ideas and identify innovative ideas, product review, evaluate and make strategic decisions.

According to Gawel (1997). Maslow first published *Motivation and Personality*, which introduced his theory about how people satisfy various personal needs in the context of their work. He postulated, based on his observations as a humanistic psychologist, that there is a general pattern of needs recognition and satisfaction that people follow in generally the same sequence. He also theorized that a person could not recognize or pursue the next higher need in the hierarchy until her or his currently recognized need was substantially or completely satisfied, a concept called prepotency. According to various literature on motivation, individuals often have problems consistently articulating what they want from a job. Therefore, employers have ignored what individuals say that they want, instead telling employees what they want, based on what managers believe most people want under the circumstances. Frequently, these decisions have been based on Maslow's needs hierarchy, including the factor of prepotency. As a

person advances through an organization, his employer supplies or provides opportunities to satisfy needs higher on Maslow's pyramid (Gawel, 1997).

Risk management is the process of identifying, assessing and controlling threats to an organization's capital and earnings. These threats, or risks, could stem from a wide variety of sources, including financial uncertainty, legal liabilities, strategic management errors, accidents and natural disasters (Sadgrove, 2016). As a result, a risk management plan includes companies' processes for identifying and controlling threats to its digital assets, including proprietary corporate data, a customer's personally identifiable information and intellectual property. Risk management strategies and processes management plans follow the same steps that combine to make up the overall risk management process, Risk identification, Risk analysis, Risk assessment and evaluation, Risk mitigation and Risk monitoring (Kleindorfer, & Saad, 2005).

#### **2.4.2. Entrepreneurial training**

Drucker, (2014) argued that, knowledgeable based economy in the world without boundaries, an entrepreneur needs to equip with skills and restructure priorities in applying high technology entrepreneurial culture that is dynamic. Understanding the full scope of what it takes to start and run a small business is overwhelming. The Entrepreneurial Training Program is a resourceful set of components designed specifically to develop a solid Entrepreneurial competitiveness, Customer relationship strategy and a strong business skill management plan which takes to build a thriving enterprise business Sánchez (2013).

It may be hard to believe, but competition is good for any business. It drives innovation, inspires perseverance and builds team spirit. And that's not all. Many times, the presence of competition increases the market for every business. Customer relationship strategy, Customer relationship management (CRM) is a term that refers to practices, strategies and technologies that enterprises use to manage and analyze customer interactions and data throughout the customer lifecycle, with the goal of improving business relationships

with customers, assisting in customer retention and driving sales growth. Business skill management, the success of every business is dependent on the skills of its employees. Similarly, the success of every entrepreneur is dependent on the availability of a skilled workforce that can serve the sectors where growth can be best achieved (Lange et al., 2000). However, in many developing countries there is a gap between the demand for skills that can help businesses to grow and develop products and services for their markets, and the supply of skills from within the domestic labour market. Business skill management involves; Mentoring matching entrepreneurs and enterprises with experienced professionals to provide both technical and moral support during the development of businesses, Reskilling labour adjustment programmes to help workers transition from declining industries into areas of economic growth, Personnel development helping businesses plan training into their budgets and build ongoing programmes to develop the skills of their employees.

Raising awareness devising public communications strategies to encourage the uptake of courses and training programmes, Policy development: ensuring a coordinated approach across a spectrum of interventions to link governments, businesses and civil society in addressing these issues (Juma, & Yee-Cheong, 2005).

### **2.4.3. Entrepreneurial awareness**

Fretschner and Weber, (2013), argued that, the widespread rise in entrepreneurship development has trickled the dimension of awareness to be exposed frequently not accompanied by rigorous and attitude evaluations. In order to enhance this understanding, entrepreneurship awareness aspects like marketing strategies, entrepreneurial viability, promotion and publicity need to be analyzed to fully understand entrepreneurial dimensions.

Entrepreneurial attitudes derived in the awareness and that perceived control over entrepreneurial tasks is not a relevant predictor of start-up intentions in an awareness setting (Liñán, Rodríguez-Cohard, and Rueda-Cantuche, 2011). A marketing strategy is

a business overall game plan for reaching people and turning them into customers of the product or service that the business provides. The marketing strategy of a company contains the company's value proposition, key marketing messages, information on the target customer, and other high level elements. (Narver, & Slater, 1990). The marketing strategy informs the marketing plan, which is a document that lays out the types and timing of marketing activities. A company's marketing strategy should have a longer lifespan than any individual marketing plan as the strategy is where the value proposition and the key elements of a company's brand reside. Entrepreneurial viability, the dimensions of Business Viability Model is a generic framework that assists the entrepreneur in identifying individual tasks (decisions) in validating the Business Concept. The model also aligns the findings with functional processes of an enterprise which an audience can easily understand. The Dimensions of Business Viability Model is a decision weighting model that provides a benchmark framework for measuring the Business Concept's viability. The model allows the entrepreneur to weigh the overall and segmented viability of the Business Concept. (Thompson, 2006).

The Dimensions of Business Viability Model will validate the Business Concept by the core dimensions of Market Viability, Technical Viability, Business Model Viability, Management Model Viability, Economic and Financial Model Viability and Exit Strategy Viability. Publicity is gaining public visibility or awareness for a product, service or your company via the media. From a marketing perspective, publicity is one component of promotion and marketing. The other elements of the promotional mix are advertising, sales promotion, direct marketing and personal selling. Publicity is about getting others to know more about organization and its business.

#### **2.4.4. Entrepreneurial finance**

Ralf et al. (2013), argued that, Entrepreneurs with prior firm-founding experience are expected to have more skills and social connections than novice entrepreneurs. Such skills and social connections could give experienced founders some advantage in the process of raising venture capital. Entrepreneurs with venture-backed founding

experience tend to raise more venture capital at an early round of financing and tend to complete the early round much more quickly. In contrast, experienced founders whose earlier firms were not venture-backed do not show a similar advantage over novice entrepreneurs, suggesting the importance of connections with venture capitalists in the early stage of venture capital financing. In the capital acquisition environment three components need to be assessed deeply that is loan accessibility, cashflow and capital stability.

According to Demirgüç-Kunt, Klapper, and Singer, (2013). Loan accessibility is the ability of individuals or enterprises to obtain financial services, including credit, deposit, payment, insurance, and other risk management services. Those who involuntarily have no or only limited access to financial services are referred to as the unbanked or under banked, respectively. Accumulated evidence has shown that financial access promotes growth for enterprises through the provision of credit to both new and existing businesses. Newman, Schwarz, and Borgia, (2014). It benefits the economy in general by accelerating economic growth, intensifying competition, as well as boosting demand for labor. The incomes of those in the lower end of the income ladder will typically rise hence reducing income inequality and poverty.

The lack of financial access limits the range of services and credits for household and enterprises. Poor individuals and small enterprises need to rely on their personal wealth or internal resources to invest in their businesses, which limits their full potential and leading to the cycle of persistent inequality and diminished growth. (Kimuyu, & Omiti, 2000).

According to Christensen (2013), cashflow, to many people, starting a business may be a bit overwhelming. Entrepreneurs not only need to define their value proposition, but they must also setup cash operations, offer economically viable solutions, gain credibility, build a customer base and generate revenues. Although entrepreneurs face a number of challenges when they commercialize their business ideas, raising startup capital (seed net worth) to fund their business efforts is the most challenging of all.

Although the pool of capital available for startup companies is not significantly larger today than a decade ago, the variety of financing options is larger. The large variety of financing sources makes raising funds for different ventures easier.

However, every specific source of financing is associated with certain obligations that entrepreneurs must understand before raising capital. The more educated entrepreneurs are, the more likely they are going to succeed in raising startup capital. The major sources of funding for entrepreneurs are; personal finances, Friends and family contributions, Angel Investors, Debt financing, Equity financing, Customer financing, Government sponsored programs. Bruton et al. (2015), Capital stability, in times of economic recession or stock market volatility, stable value funds can be one of the most valuable net worths. While many other net worth returns are much lower in hard times, stable value funds remain just that, (Stable, & Mishkin, 2007). The owner of the net worth continues to receive the agreed-upon interest rate and the full principal regardless of the state of the economy.

Generally speaking, funds and pooled net worths tend to be less risky as the net worth is not reliant on one specific enterprise Van Osnabrugge, and Robinson (2000). Funds raised as long-term capital should be for long-term purposes of capital net worth to make comparable returns and adequately cover related financing costs. However, to maintain uninterrupted operations, companies need to have extra current assets over total current liabilities as an added assurance for meeting any due obligations.

Short-term funds set aside as such are commonly referred to as working capital and may come from long-term capital, whose longer maturity dates are typically beyond the due dates of any current liabilities. As a result, companies sacrifice some long-term return to ensure short-term liquidity. These variables are used to cut an edge over other dimensions among women micro business. This will be measured in terms of relating to theoretical framework above. The dependent variable will be measured relating net profit, net worth and sales turnover. The study will establish relationship between the variables. Resources and capabilities provided by entrepreneurial dimensions among

women micro business, the internal resources were more important are than the external resources in achieving and sustaining competitive advantage of the business.

The women micro business owned by women was characterized by increased number of employees, income, business expansion and increased working capital. Access to finance is the ability of individuals or enterprises to obtain financial services, including credit, deposit, payment, insurance, and other risk management services. Those who involuntarily have no or only limited access to financial services are referred to as the unbanked or underbanked, respectively. Accumulated evidence has shown that financial access promotes growth for enterprises through the provision of credit to both new and existing businesses. It benefits the economy in general by accelerating economic growth, intensifying competition. The lack of financial access limits the range of services and credits for household and enterprises. Poor individuals and small enterprises need to rely on their personal wealth or internal resources to invest in their education and businesses, which limits their full potential and leading to the cycle of persistent inequality and diminished growth. Bruton et al. (2015). Business financing is a very important factor in growth and performance of businesses, noted that one of the most difficult problems in the new ventures and especially, the small businesses obtaining financing. For the entrepreneur, available financing needs to be considered from the perspective of debts versus equity and using external versus external funds (Bruton et al., 2015).

The concern of this study is debt financing or external credit facilities. The external finances or credit facilities is the type of finance that is obtained from persons other than the actual owners of the company.

Set up capital, Seed capital, venture capital and an initial public offering are the stages involved in financing startups. Seed capital is typically provided for market research, product development, prototype production or other early-stage operations. The business owner's skills, business capabilities and track record, along with the product's or service's benefits, help determine how much seed capital investors may contribute to a

startup. Capital stability, there are many benefits to entrepreneurship. Unfortunately, entrepreneurship often entails significant risk, and without proper planning, no one wants to consider the possibility of their business failing. Entrepreneurs that do not have a backup plan often fall back on the excuse that can be fully committed to business, many great businessmen failed several times before landing their big successes, a good backup plan actually allows you to commit business even more, as it frees up from worrying about what will be done if the business doesn't work out. (Forbat, 2007).

- 1. Financial Bootstrapping** is highly creative acquisition and use of resources without raising capital from traditional sources or borrowing money from a bank. There is a high reliance on internally generated retained earnings, credit cards, home mortgages, and customer advances. Benefits of bootstrapping are waiting as long as possible to seek equity financing permits getting financing at better terms and retaining more ownership share, greater authority and overall control, the entrepreneur spends time and resources on growing the firm, rather than courting investors, and the entrepreneurs avoids problems associated with raising too much money.
- 2. Access to external finance** is a key determinant of a firm's ability to develop, operate and expand. To date, the literature has examined a variety of macroeconomic and microeconomic factors that influence firm financing. For example, the availability of external finance is likely to vary with changes in the macroeconomic environment and monetary policy shocks. A well-documented discussion of how such changes impact the real economy is found in the so-called "balance sheet credit channel" literature, which argues that firms' access to credit via the financial sector is the principle mechanism linking central banks' interest rate policies and the real economy.
- 3. Business Angels** are successful business people who invest their own money. The term "angel" comes from the practice in the early 1900's of wealthy businessmen investing in Broadway productions. An angel investor or angel (known as a business angel or informal investor in Europe) is an affluent

individual who invests capital into a business start-up, usually in exchange for ownership equity.

4. **Venture Capitalists** (VCs) are financial intermediaries, meaning that they take the investors' capital (not their own) and invest it directly into portfolio companies. A venture capital firm invests only in private companies and they take an active role in monitoring and helping the companies in their portfolio. Their investment is utilized to fund the internal growth of companies and their primary goal is to maximize its financial return by exiting investments through sale or IPO. Venture Capital activities are: investing, monitoring, and exiting.
5. In finance, a **buyout** is an investment transaction by which the ownership equity of a company, or a majority share of the stock of the company is acquired. A buyout will often include the purchasing of the target company's outstanding debt, which is referred to as "assumed debt" by the purchaser.

#### **2.4.5. Growth of women micro business**

Micro Business hardship enables more women twisted to entrepreneurship activities as a means of mitigation from the economic hardship suffered by them. Butler, (2012) growth of micro business in woman entrepreneurship have certainly given them enormous confidence to discover new business opportunities. Women entrepreneurs in lower middle-income economies is fast becoming an important sector; as an employer and revenue generating sector that increase Gross Domestic Product (GDP) of a country. (Acs, & Szerb, 2007). Entrepreneurs played a significant role in improving different solution to the societies and business firms through exploitation of entrepreneurial opportunities. Women consist of half the world's population still majority of the women do not have access to micro finance institutions. In Nigeria, women play a vital role in the economic development of their families and communities. However, women are subjected to gender-related discriminations especially in lower middle countries. (Karakire & Guma, 2015). Some of such discriminations, occasioned by culture, are in the areas of distribution of social wealth such as education and health. (Karakire & Guma, 2015). Hence women entrepreneurial activities are essential for rural economic

transformation and poverty alleviation mechanism in less developed economy at the same time for creating diverse opportunities for young entrepreneurs in developing countries.

Women entrepreneurs themselves have roles to play so as to compliment governments effort in rural micro-enterprise development in Rwanda. These include making good business decisions, having the right motive, making effort to acquire appropriate training, strong network ties, business experience or skills, innovation, market information. Net worth refers to any mechanism used for the purpose of generating future income. In the financial sense, this includes the purchase of bonds, stocks or real estate property. (Geltner et al., 2001). The production of goods required to produce other goods may also be seen as investing. An action in the hopes of raising future revenue can also be net worth. Choosing to pursue additional education can be considered net worth, as the goal is to increase knowledge and improve skills in the hopes of producing more income. In finance, a net worth is a monetary asset purchased with the idea that the asset will provide income in the future or will be sold at a higher price for a profit. Net profit, also referred to as the bottom line, net income, or net earnings is a measure of the profitability of a venture after accounting for all costs. It is the actual profit and includes the operating expenses that are excluded from gross profit. Profit is one of the most closely followed numbers in finance, and it plays a large role in ratio analysis and financial statement analysis. Shareholders look at profit closely because it is the source of compensation to shareholders of the company, and if a company cannot generate enough profit to compensate owners, the value of shares will plummet. Conversely, if a company is healthy and growing, higher stock prices will reflect the increased availability of profits. Changes in profit are endlessly scrutinized and when a business profit is low or negative, a myriad of problems could be to blame, ranging from decreasing sales to poor customer experience to inadequate expense management. Profit varies greatly from business to business and from industry to industry. Employability is doing value creating work, getting paid for it and learning at the same time, enhancing the ability to get work in the future Employability is a management philosophy. (Knight,

& Yorke, 2004), which recognizes that employment and market performance stem from the initiative, creativity and competencies of all employees, and not just from the wisdom of senior management. For employers, it involves creating a working environment that can provide opportunities for personal and professional growth, within a management environment where it is understood that talented, growing people mean talented, growing organizations. A set of achievements, understandings and personal attributes that make individuals more likely to gain employment and to be successful in their chosen occupation. Knight, and Yorke, (2004), skills and knowledge that all labour market participants should possess to ensure they have the capability of being effective in the workplace. Sales turnover is the total amount of revenue generated by a business during the calculation period. The concept is useful for tracking sales levels on a trend line through multiple measurement periods, in order to spot meaningful changes in activity levels. The calculation period is usually one-year. Chang (2007), The revenue included in this calculation is from both cash sales and credit sales. The measurement can also be broken down by units sold, geographic region, subsidiary, and so forth. Sales turnover is restricted to revenue generated from operations. Thus, it does not include gains from financial or other activities, such as interest income, gains on the sale of fixed assets, or the receipt of payments related to insurance claims. The amount of sales turnover recognized by a micro business can vary, depending on whether it uses the accrual basis of accounting or the cash basis. Hanlon (2005), Revenue is recorded under the accrual basis when units are shipped, or services provided, whereas revenue is recorded under the cash basis when cash is received from customers (which usually delays recognition, except when there is a prepayment). Business may be tempted to report projected sales turnover based on an extension of historical sales. This is not wise, since revenue may change for a variety of unanticipated reasons, such as competitive pressure and changes in economic conditions.

## **2.5. Empirical Review**

This section covers empirical evidence or literature on influence of Entrepreneurial Dimensions on growth of women micro business in Rwanda. Measures of growth in this study include: profitability, net worth and sales turnover. The empirical literature then covered the influence of the above-mentioned indicators to growth of women micro business. Parker, (2012) argued that, the overlapping-generations framework with endogenous occupational choice and productivity-enhancing entrepreneurial innovation. It shows that introducing these basic features into based growth theory has important implications. First, an equilibrium with price-taking firms can be supported despite a constant return to scale production technology, once entrepreneurial human capital is accounted for. Second, in the proposed model, a larger size of the workforce capable to conduct neither affects the long-run rate of economic growth (“strong scale effect”) nor per capita income or welfare (weak scale effect). Economic growth is sustained in the long-run and may be policy-dependent.

Lee, Sameen, and Cowling (2015). In the wake of the 2008 financial crisis, there has been increased focus on access to finance for small firms. Research from before the crisis suggested that it was harder for innovative firms to access finance. Yet no research has considered the differential effect of the crisis on innovative firms. This paper addresses this gap. We find that women enterprises are more likely to be turned down for finance than other enterprises, and this worsened significantly in the crisis. However, regressions controlling for a host of enterprise characteristics show that the worsening in general credit conditions has been more pronounced for women enterprises with the exception of absolute credit rationing which still remains more severe for women enterprises. The results suggest that there are two issues in the financial system. The first is a structural problem which restricts access to finance women enterprises. The second is a cyclical problem has been caused by the financial crisis and has impacted relatively more severely on enterprises.

De Vita, Mari, and Poggesi, (2014). Entrepreneurship has a leading role in economic development worldwide and, although it has usually been considered as a male dominated activity, recent studies emphasize how significant the contribution of women today is: in 2010, almost 42% of entrepreneurs in the world were indeed women. The role of the gender factor emerged in the academic literature on entrepreneurship in the late 1970s. Over the years, attention has been mainly devoted to the analysis of women entrepreneurs' characteristics in developed countries.

Only recently have both the role of female entrepreneurship in emerging economies and the relevance of immigrant female entrepreneurs in developed countries appeared in international journals. Due to the relevance of these two issues for economic development and the still existing gap in the systematization of both theoretical and empirical findings, the authors of this work aim to fill this gap with a systematic literature review based on rigorous criteria.

Samila, and Sorenson, (2010), the venture capital has a complementary relationship in fostering innovation and the creation of new enterprises. Using panel data on metropolitan areas in the United States, from 1993 to 2002, the analyses reveal that the positive relationships between government research grants to universities and research institutes and the rates of patenting and firm formation in a region become more pronounced as the supply of venture capital in that region increases. The results remain robust to estimation with an instrumental variable to address potential endogeneity in the provision of venture capital. Consistent with perspectives that emphasize the importance of an innovation ecosystem, the findings point to a strong interaction between private financial intermediation and public research funding in promoting entrepreneurship and innovation.

Several determinants of firm growth have been suggested and researchers have been unable to achieve a consensus regarding the factors leading to firm growth. The commonly used measures of firm growth include but not limited to sales growth, profit, return on equity, return on assets, and entrepreneurs' perceived growth relative to their

competitors in terms of increase in company's value. Business growth can be measured in terms of sales, number of employees, value added, and complexity of the product line, production technology or the number of business units (branches) in different locations (Bunyasi et al., 2014).

Growth of women micro business have great importance for local and regional economies and bring stability and permanence to their regions. The owners' commitment is strong and therefore the domicile of the business often remains the same. Women micro business has a unique position in the local community, which is both personal and commercial. They usually act as engines for regional economic development, since they have a positive attitude towards growth, and their own growth is usually more profitable than that of other companies. The owners of business as persons are committed to the development and continuity of their firms. Phillips (2012) showed that firms have exhibited unprecedented growth across the world. Women business growth is both socially and economically important. grow revenue on a short-term basis to satisfy shareholders and to pursue their own personal gains. These firms reported higher sales growth and greater improvement in net margins for women business compared with men business. The women proprietors thus have greater incentive to maximize firm value in order to enhance their interest in the firm.

## **2.6. Critical Review**

Entrepreneur play a key role in determining the economic performance of any country thus resulting to economic development, the place of small and medium enterprises in the group and development of emerging economics cannot be over emphasized in that this sector the engine of growth especially for the developing economics and in some cases referred to as the pollinators of the development process. Although the role of small and medium enterprises in cartelizing growth and development of a developing economy had not been acknowledged by numerous scholars. (Kimaru, 2014). Despite the importance of women micro business, no much work had been done to study the influence of entrepreneurial dimensions on women micro business thus understanding

some of the factors affecting the growth of women micro businesses remain unattended too. Not much of the theories had been built on the growth process of the women entrepreneurs.

Although various literatures described factors influencing business growth such as behavior, education, training and social capital, not much had been done on the entrepreneurial dimensions towards the growth of women on the enterprise and none of the above-mentioned factors had conclusively constituted a success factor to the growth of women entrepreneurs. According to Amatucci, and Crawley, (2011), there is disconnecting between opportunities and resources in equity funding for women entrepreneurs. The women lack economic power to support their ventures to grow and these affects their business more as compared to intentions to start a business. On the other hand, Baron, and Markman, (2003) also argues that lack of human, social and financial capital affects their business.

According to Rink, Ryan, and Stoker, (2012), argues that apart from financial resources women also face difficulties in accessing the premises to put up business because of high rent rates and further to that lack collateral to access money in most of the financial intermediaries. Other constrains that impede on the entrepreneur especially in the developing countries include political insatiability, poor infrastructure, high production cost, non-conducive business environment and majorly the access to key economic recourses. To some extent entrepreneurship influences the pattern and growth rate in a developing economic despite the efforts employed by financial intermediaries to empower women micro business majors of active population were still confined into small and micro enterprise. This was constrained by limited access to; credit, property, technology, and technical skills. There were several challenges that women face in accessing finance. This challenge includes women having smaller amount of personal capital, greater need for external funding, lack of knowledge of available options and financial intermediaries in accurate perception on women on enterprises. This challenges in the south-east Europe and the US countries were related to weakness of financial institution. In most countries, financial intermediaries contribute to the growth of women

entrepreneurs by facilitating capital accumulation and accelerating the rate of technological programs by mobilizing savings and optimizing the allocation of capital between the competing users. (Ng'ana, 2013).

It was therefore critical to relate the micro financial intermediation and the growth of women on the enterprises as this directly brings about change in their growth. This was based on the resources allocation and liquidity of the enterprise. Most of the researchers had proposed explanation for empirically proven correlation between financial intermediaries and economic growth. There was sufficient evidence that financial sector development and economic growth were endogenous. The relevant theories thus state that there was a shared view that financial sector development and growth were positively related. Other authors argue that some aspects of a financial development can hurt growth. Financial intermediaries help in the allocation of resources to women owned enterprises thus improving on their performance, alternative views link financial access and economic performance as the key function of a financial system in the savings and net worth s (Beck & De La Torre, 2007).

Kaur, Kaur, and Madan, (2017). was one of the first to point out that; bank facilitates technological innovation in the role as financial intermediaries. His augments focus on the banks to allocating saving more effectively. It was thus established in finance theory that credit markets characterized by high asymmetric information notably the existing of moral hazard and advised selection problems led to savior destination and sometimes collapse of formal credit. It was therefore important to provide financial services to women owned enterprises so as to improve on their performance and thus the need of this study to find out the impact that micro finance institutions had on the small and micro women owned enterprises.

## 2.7. Research Gaps

Women businesses has been assaulted by the pressure of globalization and competition from international and local market environment. The question of what influences entrepreneurial performance is at the top in understanding the phenomena and hence striving for it. Substantial research efforts have gone into but not addressing this question, starting from the policy analyst till down to operational details. A key study bench marking the influence of entrepreneurial dimensions was carried out by the (Shepherd, Williams, & Patzelt, 2015).

This study is based on the influence entrepreneurial decisions established the rational between innovations, operational strategies, organizing skills. Kimaru, (2014) urged that, the need for entrepreneurial finances should be seen as agencies of change in assuring that women entrepreneurs get access to credit and other financial intermediation activities. According to Bunyasi,., Bwisa, and Namusonge (2014). The pivotal role of financial institutions was supposed to bring in radical changes by combination of different entrepreneurial dimensions. The past studies do not capture this spirit because it embeds the entire debate in the wholesome growth of women entrepreneurs which does not look into the socio cultural and social economic aspects of the women micro businesses especially in the developing countries like Rwanda. Micro businesses in Rwanda have remained less competitive compared to regional neighbors and if no effort is made to make them more competitive, this situation is likely to worsen with the full-fledged East African Community (EAC) common market, which Rwanda has joined. Making existing and new Rwandan SMEs more competitive in value added exports is therefore one among other vital actions necessary to reverse the trade imbalance and build competitiveness. (Akimana, 2017). However, for the case of Rwanda in spite of enterprises trying to position themselves in Rwanda market economy still they are faced with some challenges which need to be addressed in order to promote effective and efficient entrepreneurial performance. (Akimana, 2017).

According to Muthathai, (2017) SMEs are critical to the development of any economy as they usually form the bulk of economic activity and Most of these SMEs do not survive their second “birthday” because of certain challenges. The performance of Rwanda women entrepreneurs in the growth of the economy there are still constraints include lack of capital acquisition, lack of innovations, market-based challenges, and human resource, hence these factors are believed to act as bottlenecks to the performance of women entrepreneurs in the country hence affecting economy. Women in entrepreneurship has been largely neglected both in society in general and in the social sciences In-depth information on the share of women as owners of micro, small and medium enterprises, the area of concentration, challenges, and opportunities and strengths and weaknesses of their economic associations and networking is limited. Even though women entrepreneurs in SMEs account the greatest proportion of total entrepreneurs in the country as a whole and in Bugesera in particular, there is an acute shortage of studies conducted with a specific objective of analyzing the problems of enterprises operated by women in terms of personal and organizational-related challenges, economic, social/cultural, and legal/administrative. According to Bridge, and O'Neill. (2012). SMEs are critical to the development of any economy as they usually form the bulk of economic activity and Most of these SMEs do not survive their second “birthday” because of certain challenges and given the performance of Rwanda women entrepreneurs in the growth of the economy there are still constraints include lack of capital, lack of innovations, market-based challenges, and human resource challenges, despite all these constraints, women in Rwanda are key players in economic and social development. It should also be noted that no substantial academic research has been done in Rwanda especially on influence of entrepreneurial dimensions on growth of women hence the researcher would like to examine influence of entrepreneurial dimensions on growth of women oriented small and Medium enterprises despite of the above factors in order to come up with recommendations to improve on women entrepreneurs in the country. A number of models will be developed to measure growth of women micro businesses, the researcher will fill the gap by establishing usage of the

relevant models for the influence of entrepreneurial dimensions on women micro businesses.

## **2.8. Summary**

The study found out that the influence of entrepreneurial dimensions impacts growth of women micro business, with literature review this was provided through academic ground for researcher to provide deep analysis on the study and provide a logical informed conclusion on the influence of entrepreneurial dimensions on growth of women micro business in Rwanda. This chapter specially looked at the literature on influence of entrepreneurial dimensions in relation to growth of women micro businesses. The researcher indicated the influence of innovation on growth of women micro business in Rwanda, the influence of entrepreneurial training on growth of women micro business in Rwanda, the influence of entrepreneurial awareness on growth of women micro business in Rwanda, the influence of entrepreneurial finance on growth of women micro business in Rwanda. The above chapter reviewed the various theories that explain the independent and dependent variables. The reviewed theories are then critiqued for relevance to specific variables. Specifically, the reviewed theories include Theory of innovation, theory of entrepreneurial training, theory of entrepreneurial awareness and finance theory. The chapter also explores the conceptualization of the independent and the dependent variables by analyzing the relationships between the two set of variables. Specifically, the conceptual framework is constructed in line with Assessment, Dahlberg, Guo, and Ondrus, (2015), an empirical review was conducted where past studies both global and local are reviewed to the topic and this resulted into a critique which later critiques informed the research gap. Previous literature does not sufficiently explain the influence of entrepreneurial dimension on growth of women micro business in Rwanda between innovation. This research therefore aims at filling this gap in literature and looks at the entrepreneurial dimension on growth of women micro business in Rwanda.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1. Introduction**

In this section, the researcher describes how the study carried out by showing the research design, sampling techniques and procedures, data collection methods, data collection instruments, study variables and their measurement, pretesting for validity and reliability, data processing and analysis, model specification, model estimation, presentation of results and ethical issues.

#### **3.2. Research Design**

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose (Kothari & Garg, 2014). Namusonge (2010) observed that a research design was suited for gathering descriptive information where the researcher wanted to know about people or attitudes concerning one or more variables through direct query. This study adopted a mixed research design where both quantitative and qualitative approaches were used to determine the influence of entrepreneurial dimensions on growth of women micro businesses in Rwanda. Creswell (2014), showed that both forms of data provide different types of information, each type of data collection has both limitations and strengths that can be combined to develop a stronger understanding of the research problem or questions (and, as well, overcome the limitations of each). This mixing or blending of data provides a stronger understanding of the problem or question than either by itself.

### 3.3. Target population

Kothari and Garg (2014) describes target population as total items about which information is desired. The target population of this study comprised of all registered women micro businesses by the district authorities as at 01<sup>st</sup> January 2017 that have been in operation with a focus on women micro businesses.

The target population comprised of 8,629 registered businesses in Bugesera district, from different sectors as classified by the Bugesera district registry of business as shown in Table 3.1.

**Table 3.1: Target Population**

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<b>Business (Industry) Activity</b>	<b>Total Number</b>
Trading, Shop, Retail & hardware stores	5,140
Transport services	317
Farming & fisheries	1,532
Tourism, Hotel and Restaurants	38
Financial Services	367
Mechanical & technical services	1,157
Cottage manufacturing	78
<b>Total</b>	<b>8,629</b>

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### 3.4. Sampling Techniques, Procedure and sample size

The researcher used data or list of all registered businesses provided by the district register of business as at 01<sup>st</sup> January 2017. The sample size obtained was adequate and yielded desired precision. In determining the sample size, Slovin's formula was used to calculate the sample size (at 95% confidence level and  $\alpha = 0.05$ ) as indicated on Equation 3.1.

$$n = \frac{N}{(1 + Ne^2)}$$

Equation 3.1

Where,

n = is the desired sample size

N = is the population size

e = margin of error (at 95% confidence level)

Therefore, sample size was given as,

$$n = 8,629 / (1 + 8,629 (0.05)^2) = 324 \dots \dots \dots \text{Equation 3.2}$$

Stratified sampling was used to select the sample size of 324 from the different business/activity from the sampling frame representing 8,629 registered businesses in Bugesera District and stratified sampling was used mainly in Bugesera District because it was already stratified according to the townships and sectors. Simple random sampling was then applied at the point of selecting the enterprises from the various groups in the sectors thus selecting the sample size. The sample business units were selected randomly by the researcher on the basis that the sample unit selected out of the sample size was typical or representative of the whole (Kothari & Garg, 2014).

**Table 3.2: Sample Size**

<b>Business (Industry) Activity</b>	<b>Target Population</b>	<b>Population Percentage</b>	<b>Sample Size</b>
Trading, Shop & hardware Retail	5,140	59.6%	233
Transport, Services	317	3.7%	10
Agribusiness, Fisheries	1,532	17.7%	38
Tourism, Hotel and Restaurants	38	0.4%	4
Financial, Services	367	4.2%	12
Mechanical and, technique Service	1,157	13.4%	10
Cottage, Industries	78	1.0%	17
<b>Total</b>	<b>8,629</b>	<b>100%</b>	<b>324</b>

### **3.4.1. Sampling Techniques and Procedure**

According to Kothari (2004), a technique is defined as a set of means and procedures that a researcher uses to collect data and information. In scientific research books, techniques are defined as procedures which allow the researcher to collect information about the research subject. In this study, the following techniques of data collection were used: Stratified sampling was used to group the respondents in respective groups.

The groups consisted of 324 beneficiaries. The research used random sampling to collect the data from the respondents in order to allow them equal chances to participate. Simple random sampling was used to collect the information from the beneficiaries to make everyone to have equal chance of being selected.

### **3.5. Data Collection Methods**

According to Fielding, (2012), both quantitative and qualitative methods of data collection are ideal for triangulation purpose and to capture depth information from the respondents. The researcher collected data from primary and secondary sources. Quantitative method was employed in data collection since it had the advantage of getting responses of the same questions from a large number of people. Responses was then quantified, and conclusions were drawn from them. Qualitative method enabled the researcher to collect data in the actual context in which the actual phenomenon occurs. It is usually an exploratory activity in which data is collected in a real-life natural setting and is therefore rich, descriptive and questionnaires was used on the field visits to Bugesera and interview questionnaire were designed and pre-tested for minor adjustments and corrections to clarify some questions and ensure that relevant information is gathered.

#### **3.5.1. Primary data**

Observation, the researcher used this method specially to learn about things that the respondents could not be aware of and not willing to discuss in the interview or as regards the activities of their businesses towards their rural small-scale enterprises.

Questionnaire, according to Kothari, (2004), this method involved use of a questionnaire designed in line with the research objectives. The questionnaire used open ended where the interviewers were given a chance to answer the questions the way they wished, and the responses was written down verbatim. This was accompanied by closed ended questions and these were provided alternative answers to the questions and they were

either tick strongly agree, agree, not sure, disagree and strongly disagree in a multiple-choice format. In case of closed questions, the researcher assistants were used the check mark in the recording of answers. Focused group interviews, the researcher used this technique by grouping the respondents into small groups to get further reflection and opinions on the research study Finch, and Lewis, (2003). The members in the focused group were given some probing discussion questions summarized in the focused group interview guide which they discussed amongst themselves and other focused groups. The researcher recorded down the discussions and even took the written information from the focus group discussions for further analysis.

### **3.5.2. Secondary data**

Documentary review, documentation is called by some authors “the literature review” is used in any research in order to collect data and any relevant information of written source Berg, (2004). The documentary technique helped the researcher to exploit many written documents related to the topic of the study. In this case, it consisted of consulting existing publications such as, books, reports, dissertation and inter-net websites reports. This was worked around literature and secondary information majorly from the journals and the internet on entrepreneurship dimensions and growth women micro business in Rwanda. The information gathered was analyzed and used in the research study. Internet source, the updated sources also from internet was also consulted and the only data relevant to influence of entrepreneurial dimension was retrieved based on recognized website for the institutions that matters to be of relevant to the research topic.

### **3.6. Data Collection Procedure**

Data was collected through administration of questionnaires with the help of the research assistants. The questionnaires were self-administered to either the top managers, middle managers and lower managers who are considered to be holding the top management positions in women micro Businesses. The researcher also used face-to-face interviews to get highest response rate and capture important aspects apart from

the questions asked in the questionnaire. The questionnaires were first dropped with an introductory letter of authority to carry out research to the business and follow up was done through telephone and personal visits to secure appointments with the respondents from the business for face-to-face interview. This was useful to ensure consistency in the interpretation of questions in order to achieve high response level and avoid any misinterpretation of questions or inconsistent responses.

### **3.7. Pilot study**

To check the validity and reliability of the questionnaires in gathering the data required for purposes of the study, a pilot study was carried out. The purpose of pilot testing is to establish the accuracy and appropriateness of the research design and instrumentation (Saunders et al., 2009). states that, the importance of pilot testing cannot be overemphasized; the researcher almost always find that there are questions that people fail to understand or interpret in different ways, places in the questionnaire where they are not sure where to go next, and questions that turn out simply not to elicit useful information. Cooper et al. (2006) concur that the purpose of pilot test is to detect weaknesses in design and implementation and to provide proxy for data collection of a probability sample. Sekaran (2006) reinforces that pilot test is necessary for testing the reliability of instruments and the validity of a study.

#### **3.7.1. Validity Test of Research Instrument**

Validity refers to the accuracy of the research instrument to measure what it is supposed to measure (Kothari & Garg, 2014). It is the degree to which results obtained from the analysis of the data actually represent the phenomenon under the study.

In this study, the questionnaire was guided by the conceptual framework in order to measure the elements of entrepreneurial dimension and women micro businesses to ensure all the types of validity are addressed.

### 3.7.2. Reliability of Research Instrument

Reliability refers to the measure of the degree to which a research instrument yields consistent results on across time and across the various items of the instrument. Reliability is the extent to which an instrument is predictable, accurate and dependable to yield the same results every time it is administered (Drost, 2011). Reliability is the ability of the research instrument to give the same answer in the same circumstances from time to time. If respondents answer a questionnaire the same way on repeated situations, then the questionnaire is said to be reliable (Sasaka *et al.*, 2014).

Cronbach's alpha was developed by Cronbach in (1951) to provide a measure of the internal consistency of a test or scale; it is expressed as a number between 0 and 1.

Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test.

Internal consistency should be determined before a test can be employed for research or examination purposes to ensure validity (Tavakol, 2011).

Cronbach's alpha basic equation measure which is an extension of the Kuder-Richardson formula 20 (KR-20), reliability coefficient of internal consistency was determined and given by equation 3.3.

$$KR - 20 = \frac{(K)(S^2 - \sum S^2)}{(S^2)(K-1)} \quad \text{Equation 3.3}$$

Where,

KR-20 – Reliability coefficient of internal consistency

K– Number of questions used to measure the reliability

$\sum S^2$  – Total variance of overall scores on the entire test

$S^2$  – Variance of scores on each question

### 3.7.3. Reliability Results

This study determined the reliability of the independent variables (that is innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness), and the dependent variable (profit, net worth and sales turnover) of women micro business in order to check for internal consistency. Internal consistency of measures was tested by computing the Cronbach's alpha co-efficient as illustrated in Table 3.3

**Table 3.3: Reliability Results**

<b>Variable</b>	<b>Sample Size (N)</b>	<b>Reliability co-efficient Alpha</b>	<b>Accept/Reject</b>
Innovation	317	.960	Accept
Entrepreneurial Finance	317	.747	Accept
Entrepreneurial training	317	.927	Accept
Entrepreneurial awareness	317	.869	Accept
Women micro business	317	.937	Accept

### 3.7.4. Data Management

Data collected was screened to find out any missing values or errors that could be corrected. Before any statistical analyses were done, the researcher checked for normality of the variables under the study. The assumption is that the variables are normally distributed. In their study, Ali, Namusonge and Sakwa (2016), showed that the

assumptions and application of statistical tools as well as suitability of the tests are important aspects for statistical analysis. Verified data inspire stakeholder confidence and give reliable inferences and trustworthy interpretations for policy making. To check for normality, the study adopted the One-sample Kolmogorov-Smirnov test, Skewness and Kurtosis test, and Auto correlation test.

#### **a) Normality Tests**

Many parametric statistical methods, such as analysis of variance or ANOVA test, linear regression, Pearson correlation, f-test and t-test, require that the dependent variable is approximately normally distributed for each category of the independent variable.

#### **b) Skewness and Kurtosis Test**

In respect of the measures of skewness and kurtosis, we mostly use the first measure of skewness based on mean and mode or on mean and median. Other measures of skewness, based on quartiles or on the methods of moments, are also used sometimes. Kurtosis is the measure of flat-topped-ness of a curve. A bell-shaped curve or the normal curve is mesocratic because it is kurtic in the centre; but if the curve is relatively more peaked than the normal curve, it is called Leptokurtic whereas a curve is more flat than the normal curve, it is called Platykurtic. In brief, Kurtosis is the humped-ness of the curve and points to the nature of distribution of items in the middle of a series (Kothari & Garg, 2014).

Skewness and Kurtosis tests were used to measure symmetric distribution and peak-ness of distribution respectively. The values of asymmetry and kurtosis between -2 and +2 are considered acceptable to prove distribution normality (Ali *et al.*, 2016).

The skewness and kurtosis measures should be as close to zero as possible. However, in reality, data are often skewed or kurtotic. A small departure from zero is therefore not a problem as long as the measures are not too large compared to standard errors. In this

study, the skewness and kurtosis are within the accepted ranges. It is therefore assumed that the data are approximately normally distributed, in terms of skewness and kurtosis.

**Table 3.4: Skewness and Kurtosis**

Variable	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Growth of women business	317	.285	.139	-.436	.276

Valid N (listwise)

### c) One-Sample Kolmogorov-Smirnov Test

Kolmogorov–Smirnov test is a test used to check if a dataset is from a particular distribution. It is a non-parametric test and is applicable for continuous distributions. It is used to test whether the distribution of a variable in a sample is similar to or different from the distribution of a population which is already known (Greener, 2008).

**Table 3.5: One-Sample Kolmogorov-Smirnov Test**

---

<b>Non-parametric Test</b>		<b>GROWTH</b>
N		317
Normal Parameters <sup>a</sup>	Mean	22.2379
	Std. Deviation	5.31869
Most Extreme Differences	Absolute	.110
	Positive	.110
	Negative	-.076
Kolmogorov-Smirnov Z		5.926
Asymp. Sig. (2-tailed)		<b>.431</b>

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Test distribution is Normal.

The null hypothesis is that the sample is drawn from the reference distribution (that is, the data is probably normal). A one-sample Kolmogorov-Smirnov test failed to reject the null hypothesis that the data followed the normal distribution since the Asymp. Sig. (p-value) is 0.431 which is greater than the one set at  $p > 0.05$ .

#### **d) Durbin-Watson (Autocorrelation) Test**

The main cause of autocorrelation is omitted variables from the model. When an important independent variable is omitted from a model, its effect on the dependent variable becomes part of the error term. Hence, if the omitted variable has a positive or negative correlation with the dependent variable, it is likely to cause error terms that are positively or negative correlated (Babatunde et al., 2014).

One of the assumptions of regression is that the observations are independent. If observations are made over time, it is likely that successive observations are related. If there is no autocorrelation (where subsequent observations are related), the Durbin-Watson statistic should be between 1.5 and 2.5. As shown in Table 3.6, the Durbin-Watson value is 1.899 which indicates that the observations under the study were independent and thus no autocorrelation.

**Table 3.6 : Durbin-Watson**

Model	R	R Square	R Square	Estimate	
1	.803 <sup>a</sup>	.644	.639	.45770	1.899

### **3.8. Data analysis and presentation**

According to Zikmund et al. (2010), data analysis refers to the application of reasoning to understand the data that was gathered with the aim of determine the consistent patterns and summarizing the relevant details revealed in the investigation. The data was collected, processed and analyzed with respect to the study objectives, using both descriptive and inferential statistics. The tool of analysis used for this study was Statistical Package for Social Sciences (SPSS) version 22.0. The data was analyzed using descriptive statistics such as mode, median, mean, standard deviation.

Research hypotheses were tested by use of F-tests (ANOVA) and t-tests to measure and determine the statistical significance between the variables and to draw conclusions of the study. The data was also assumed to take a normal distribution.

Correlation and multiple linear regression analyses were also used to determine the relationship between the entrepreneurial dimensions and the women micro business. Univariate analysis was first done for each independent variable to establish their influence on the dependent variable and as preparation for multivariate analysis.

### 3.8.1. Multiple Linear Regression Model

The study employed multiple linear regression model given by equation 3.4

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots\dots\dots \text{Equation 3.4}$$

Where,

$\beta_0$  – co-efficient of the constant variable,

$\beta_1, \beta_2, \beta_3,$  and  $\beta_4$  are regression coefficients;

$X_1$ – Innovation

$X_2$  – Entrepreneurial finance

$X_3$ – Entrepreneurial training

$X_4$  – Entrepreneurial awareness

$\varepsilon$ - Stochastic Error term.

### 3.8.2. Hypotheses Testing

The study was based on the assumption that entrepreneurial dimensions had an influence on the women micro business. The conceptual framework was used to guide the study and four relevant hypotheses were therefore set out and tested at 95 per cent confidence level (level of significance,  $\alpha = 0.05$ ). To test the hypotheses of the study, the p-value was used to test the significance of each independent variable to the dependent variable. If the p-value calculated was less than 0.05, the null hypothesis is rejected.

**Table 3.7: Study Hypotheses and Analytical Models**

Hypotheses	Hypothesis Test	Decision Rule and Anticipated Model
There is no influence of innovation on growth of women business in Rwanda.	Karl-Pearson Coefficient of correlation; F-test (ANOVA), T-test	Reject H01 if p-value ≤ .05, otherwise, fail to reject if p-value > .05. Analytical Model: $Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ , where, a=constant, $\beta_1$ , and $\beta_3$ = correlation co-efficient; X1 = creativity strategy, X2 = idea management X3 = Risk management; e = error term
There is no influence of entrepreneurial finance on women micro business In Rwanda	Karl-Pearson Coefficient of correlation; F-test (ANOVA) T-test	Reject H01 if p-value ≤ .05, otherwise, fail to reject if p-value > .05. Analytical Model: $Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ , where, a=constant, $\beta_1$ , and $\beta_3$ = correlation co-efficient; X1 = loan accessibility X2 = cashflow, and X3 = capital Stability; e = error term
There is no influence Of Entrepreneurial training on growth of women micro businesses in Rwanda.	Karl-Pearson Coefficient of correlation; F-test (ANOVA) T-test	Reject H01 if p-value ≤ .05, otherwise, fail to reject if p-value > .05. Analytical Model: $Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ , where, a=constant, $\beta_1$ , and $\beta_3$ = correlation co-efficient; X1 = entrepreneurial competitiveness, X2 = Business skill management and X3 = customer Relations; e = error term
There is no influence of Entrepreneurial awareness on women micro Business in Rwanda	Karl-Pearson Coefficient of correlation; F-test (ANOVA) T-test	Reject H01 if p-value ≤ .05, otherwise, fail to reject if p-value > .05. Analytical Model: $Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$ , where, a=constant, $\beta_1$ , and $\beta_3$ = correlation co-efficient; X1 = market Strategy, X2 = entrepreneurial visibility and X3 = Promotion; e = error term

### **3.9. Diagnostic Test**

When the assumptions of the linear regression model are correct, ordinary least square (OLS) provides efficient and unbiased estimates of the parameters (Long & Ervin, 2000). As notes, knowledge and understanding of the situations when violations of assumptions lead to serious biases, and when they are of little consequence, are essential to meaningful data analysis. To keep up with the assumptions, this study conducted the following diagnostic tests: factor analysis, reliability test, normality test, homoscedasticity test and multicollinearity test on the variables. However, as Osborne, Christensen, & Gunter (2001) observe, few articles report having tested assumptions of the statistical tests they rely on for drawing their conclusions.

#### **3.9.1. Test for Multicollinearity**

Multicollinearity is an unacceptable high level of inter correlation among the independent variables, such that effects of independent variables cannot be separated (Garson, 2012). In multiple regression, the variance inflation factor (VIF) is used as an indicator of multicollinearity. Variance inflation factor (VIF) is a factor by which the variance of the given partial regression coefficient increases due to given variable's extent of correlation with other predictors in the model (Dennis, 2011). As a rule of thumb, lower levels of variance inflation factor (VIF) are desirable as higher levels of VIF are known to affect adversely the results associated with multiple regression analysis. A simple diagnostic of co linearity is the variance inflation factor for each regression coefficient.

Garson (2012) asserts that the rule of thumb is that  $VIF > 4.0$  multicollinearity is a problem and other scholar use more lenient cut off of  $VIF > 5.0$  when multicollinearity is a problem. However, O'Brien (2007) suggests that this rule of thumb should be assessed in contextual basis taking into account factors that influence the variance of regression coefficient. He further argued that the VIF value of 10 or even 40 or higher

does not necessarily suggest the need for common treatment of multicollinearity such as using ridge regressions, elimination of some variables or combine into a single variable.

### **3.9.2. Homoscedastic Test**

Homoscedasticity suggests that the dependent variable has an equal level of variability for each of the values of the independent variables (Garson, 2012). A test for homoscedasticity is made to test for variance in residuals in the regression model that will be used in this study. If there exist equal variance of the error term, we have a normal distribution. Lack of an equal level of variability for each value of the independent variables is known as heteroscedasticity, The Breusch-Pagan test developed by Breusch and Pagan (1979) was used to test for homogeneity in a linear regression model.

### **3.10. Measurement of Variables**

Various indicators were used in measuring of study variables. Measurement of variables was done for independent, and dependent variable.

### **3.11. Measurement of Independent Variables**

The study used four independent variables that are innovation, entrepreneurial finance, entrepreneurial training and entrepreneurial awareness. Innovation was measured by evaluating respondent's opinions on growth of women, every successful entrepreneurial is based on sound innovations and constructive ideas developed by entrepreneurial. These indicators are vital for the recovery of full growth. The indicators used include creativity strategy, New idea management and risk management. Entrepreneurial finance was measured by determining the effect of loan accessibility, cashflow and capital stability on growth of women micro business in Rwanda. One of the most important aspects of finance is ensure that liquidity is maintained so that business operations are supported.

Entrepreneurial training was measured by assessing the influence of entrepreneurial competitiveness, customer relationship strategy and business skill development on growth of women micro Business in Rwanda. The training is a key to development of any entrepreneurial who has a clear a gender of the business. In an efficient market, higher levels of business skill development will be associated with higher productivity. Entrepreneurial awareness was measured by evaluating the influence of marketing strategy, entrepreneurial viability and promotional and publicity on growth of women micro business in Rwanda. Entrepreneurial awareness play an important role in ensuring the brand recognition in local market and international markets.

### **3.12. Measurement of dependent variables**

The dependent variable for the study was measured by determining the increase of profitability, Net Worth and sales turnover. These indicators were paramount in determining growth of women micro business in Rwanda. The indicators were analyzed in order to determine the influence of independent variable on the dependent variable (Ngechu, 2004).

### **3.13. Ethical Considerations of Research**

To ensure that the study complied with the ethical standards of research, permission to conduct the research was sought from the respective authorities. Full disclosures of all the activities concerning the study were provided to the authorities. A letter of introduction was also obtained from the University in order to respect informants and to protect them from abuse resulting from the data they gave. Also, a research permit to conduct research was obtained from the Ministry of education. Data was presented in such a way that it did not reveal identities of the participants since nowhere on the questionnaire respondents were asked to indicate their personal identities. The researcher maintained a high level of confidentiality and privacy since the findings of the study were not disclosed to unauthorized individuals. Respondents were made aware of the benefit of the study and they were assured that the study was meant for academic

purpose only by contributing to existing body of knowledge and also had direct policy implications on improvement of entrepreneurial dimension on growth of women micro business. The respondents had the freedom to quit responding to questioners at any stage with no terms and conditions, this was meant to make them not to feel coerced to participate in the study and win their willingness and ownership of their opinions.

## **CHAPTER FOUR**

### **RESEARCH FINDINGS AND DISCUSSION**

#### **4.1. Introduction**

This chapter describes the findings and discussion of results of the study on the influence of entrepreneurial dimensions on growth of women micro businesses in Rwanda. The data collected in this study was evaluated, discussed and inferences made, in an effort to address the specific objectives of the study. Descriptive and inferential statistics were used to analyze the data on each variable. Data was presented in the form of frequency distribution tables to facilitate description and explanation of the study findings. The inferential statistical analysis was conducted for the purposes of testing hypotheses that were stated in chapter one and determining the relationship between independent and dependent variables. Data analysis was in line with specific objectives where patterns were investigated, interpreted and implications drawn on them. Data was presented in figures and frequency tables. The researcher tested reliability and regression model results were provided. Hypotheses were tested for all the independent variables and presented in this chapter.

#### **4.2. Response Rate**

Mugenda and Mugenda (2003), as cited by Theuri, Mugambi and Namusonge (2015) and Duncan et al. (2015), observed that a 50% response rate is adequate, 60% good and above, while 70% rated very well. Based on this assertion, the response rate of 97.8% in this case is therefore very good and is considered satisfactory to make conclusions for the study. Studies by Theuri et al. (2015) and Duncan et al. (2015), obtained similar response rates hence adequate.

**Table 4.1: Response Rate**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Responded	317	97.8
Non-response	7	2.2
<b>Total</b>	<b>324</b>	<b>100</b>

The recorded high response rate as shown in table 4.1 was attributed to the data collection procedures, where the researcher pre-notified the potential participants of the intended survey, utilized a self-administered questionnaire where the respondents completed and immediately after, they were picked. Follow up calls were also made to clarify queries in the questionnaires.

### **4.3. Pilot Results**

The pilot aimed at assessing the reliability of the instrument's psychometric measures utilized in the study. This test helped in refining the questionnaires and made them more relevant and meaningful (Mugenda & Mugenda, 2003; Kothari 2004) in capturing the correct data for the study.

#### **4.3.1. Reliability**

The study conducted a pilot test analysis on growth of women micro businesses to ascertain if the research instrument would bring out reliable information. The pre-test was conducted on thirty micro women businesses in Bugesera District. In each of the business, only one questionnaire was filled by either the head of the business, General Manager or Depute manager who were considered to be relevant to the business. Sasaka et al. (2014) pointed out that reliability is the ability of the research instrument to give the same answer in the same circumstances from time to time. If respondents

answer a questionnaire the same way on repeated situations, then the questionnaire is said to be reliable.

**Table 4.2: Reliability Results**

Variable	Co-efficient Alpha	Comment
Innovation	0.941	Accepted
Entrepreneurial Finance	0.902	Accepted
Entrepreneurial training	0.918	Accepted
Entrepreneurial awareness	0.818	Accepted
Growth of women micro Business	0.937	Accepted

Cronbach’s alpha was used to determine the reliability of the questionnaire used in this study. In their study, Theuri et al. (2015) showed that Cronbach alpha values ranges between 0 and 1.0; while 1.0 indicates perfect reliability, the value 0.70 is deemed to be the lower level of acceptability. The reliability statistic for each of the identified factors is presented in Table 4.2. It is evident that Cronbach’s alpha for each of the independent variable is well above the lower limit of acceptability of 0.70. The findings indicated that innovation had a coefficient of 0.941, Entrepreneurial training had a coefficient of 0.902, entrepreneurial awareness had a coefficient of 0.918, Entrepreneurial Finance had a coefficient of 0.818 and women micro business had a coefficient of 0.879. The analysis established that almost all the sections and questions achieved a Cronbach alpha of 0.7 and above. The study also assessed the responses per question to determine if there were any technical snags with the questions. Thus, the results indicated that the questionnaire used in this study had a high level of reliability.

### **4.3.2. Validity**

Factor analysis was used to check validity of the constructs. Factor analysis is used to find factors among observed variables to produce a small number of factors from a large number of variables which is capable of explaining the observed variance in the larger number of variables (Theuri et al., 2015). Prior to extraction of the factors, several tests were used to assess the suitability of the respondent data for factor analysis. The tests included Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity.

Kaiser-Meyer-Olkin Measures of Sampling Adequacy (KMO) & Bartlett's Test of Sphericity is a measure of sampling adequacy that is recommended to check the case to variable ratio for the analysis being conducted. In most academic and business studies, KMO and Bartlett's test play an important role for accepting the sample adequacy. While the KMO ranges from 0 to 1, the world-over accepted index is over 0.5. Also, the Bartlett's Test of Sphericity relates to the significance of the study and thereby shows the validity and suitability of the responses collected to the problem being addressed through the study. For Factor Analysis to be recommended suitable, the Bartlett's Test of Sphericity must be less than 0.05 (Theuri et al., 2015).

The study applied the KMO Measures of Sampling Adequacy and Bartlett's Test of Sphericity to test whether the relationship among the variables was significant or not as shown in table 4.3. The Kaiser-Meyer-Olkin Measures of Sampling Adequacy shows the value of test statistic as 0.829, which is greater than 0.5 hence an acceptable index. While Bartlett's Test of Sphericity shows the value of test statistic as 0.000 which is less than 0.05 acceptable indexes. These results indicate a highly significant relationship among variables.

**Table 4.3: KMO and Bartlett's Test**

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Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.829
	Approx. Chi-Square	2283.618
Bartlett's Test of Sphericity	Df	15
	Sig.	.000

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### **4.3.3. Multi-Collinearity Test**

Ruhiu, Ngugi and Waititu (2014), showed that a situation in which there is a high degree of association between independent variables is said to be a problem of multi-collinearity which results into large standard errors of the coefficients associated with the affected variables. Multi-collinearity can occur in multiple regression models in which some of the independent variables are significantly correlated among themselves. In a regression model that best fits the data, independent variables correlate highly with dependent variables but correlate, at most, minimally with each other. Multi-collinearity can also be solved by deleting one of the highly correlated variables and re-computing the regression equation.

Multicollinearity is associated with VIF above 5 and tolerance below 0.2. A commonly given rule of thumb is that VIF's of 10 or higher may be a reason for concern (Makori & Jagongo, 2013). The regression analyses are tested to see if there is a presence of autocorrelation and multicollinearity in the data Variance Inflation factor (VIF) statistics (Ruhiu et al., 2014).

**Table 4.4: Multi-collinearity**

Variable	Collinearity Statistics	
	Tolerance	VIF
Innovation	.439	2.278
Entrepreneurial finance	.752	1.329
Entrepreneurial training	.446	2.243
Entrepreneurial awareness	.539	1.854

a. Dependent Variable: Growth

Table 4.4 shows the Tolerances for all the independent variables are all above 0.2. The Variance Inflation Factors (VIFs) are all below 5. The scores of these statistical tests are accepted, implying that there is no presence of autocorrelation and multicollinearity in the data. The independent variables of the study were therefore accepted for further analysis as they did not exhibit multicollinearity.

#### **4.4. Background Information**

This section summarizes the analysis of demographic information of respondents as revealed from the data collected from women micro business in Rwanda stating clearly position of respondents, age of respondents, educational, type of business, kind of business, age of business, number of employees, business sales. Research in demographic context provided a great deal of understanding of the population dynamics and their linkages to social problems.

##### **4.4.1. Position of Respondent**

The study sought to establish the positions held by respondents in woman micro businesses. The respondents were restricted to the top management, middle management and lower management. The study gathered information on women micro

business from the top management at 60.6%, Middle management at 27.4% and Lower management at 12% as shown in Table 4.5. This implies that big percentage indicates the relevance of information collected. The findings supported by Jacokes (2013) pointed out that, top managers are responsible for setting the overall direction of a company and making sure that major organizational objectives are achieved. Their leadership role can extend over the entire organization or for specific divisions such as finance, marketing, human resources, or operations.

**Table 4.5: Position in the Business**

<b>Position</b>	<b>Frequency</b>	<b>Percentage</b>
Top management	192	60.6
Middle management	87	27.4
Lower management	38	12
<b>Total</b>	<b>317</b>	<b>100</b>

#### **4.4.2. Age of Respondents**

The study sought to establish the ages of the respondents. As shown on Table 4.6 Majority of respondents fall between 31 and 40 years, forming a total of 52.6% as young graduates from tertiary institutions and universities have embraced micro business, also second age bracket fall between 21 -30 years forming a total of 25.2% followed by age group between 41-50 years with 11.2%. It is also in agreement with the findings by Price (2006) who maintained that there are two natural age peaks correlated to entrepreneurship, namely the late twenties and mid-forties. The study findings are almost similar to a study done in America by Muijanack, Vroonhof and Zoetmer (2003) who determined that the optimum age for entrepreneurs was 25-35years.

**Table 4.6: Age of Respondents**

<b>Age of Respondent</b>	<b>Frequency</b>	<b>Percentage</b>
Below 20 years	13	4.1
21-30 years	80	25.2
31-40 years	167	52.6
41-50 years	35	11.2
Above 50 years	22	6.9
<b>Total</b>	<b>317</b>	<b>100</b>

#### **4.4.3. Education Level Achieved**

The study further tried to find out the level of education the respondents achieved. The research established that 56.7% of the respondents had acquired bachelor's degree, 16.1% acquired diploma, 13.3% of respondents acquired secondary level while master's degree, primary was 4.2% (Table 4.7). These results are supported by other studies that have established that education and experience are antecedents to the decisions to start a business (DeTienne & Chandler, 2007). They also argue that levels of formal education of the entrepreneur influence starting a business in the area of training. In recent years new business founders have been found to have above average education (Davidsson 2015 ). Comprehensive data from the US indicate that groups with lower education show less of an interest in an entrepreneurial career (Reynolds, 1995). This shows that there is a positive influence of education on entrepreneurial intention. Wang and Wong (2004) discussed that gender, women business experience, and education level significantly impact persons' entrepreneurial intention. These findings concur with Vis, Cardozo, & Poppema, (2012) who concluded that, in Rwanda the majority of women entrepreneurs are educated and the minority have no formal education.

**Table 4.7: Level of Education**

<b>Education Level</b>	<b>Frequency</b>	<b>Percentage</b>
Primary	13	4.2
Secondary	42	13.3
Diploma	51	16.1
Bachelors' degree	180	56.7
Masters' degree	31	9.7
Ph.D.	0	0
<b>Total</b>	<b>317</b>	<b>100</b>

#### **4.4.4. Type of Business**

The study sought to establish the type of business women are licensed and registered. It was noted that majority of the women micro businesses in the study area, as shown in Table 4.8 were registered Sole proprietorship representing 88.4%, while those registered and operating as Partnership company accounted for 7.5%. Few women businesses in the study area were registered as Private limited liability company representing 4.1%. This implies that majority of women businesses in the study area are those women businesses operating as sole proprietorship which are mostly run as micro businesses and managed by very few workers (not more than 10 employees). These results are in agreement with the fact that in entrepreneurship and management studies the innovativeness of growing firms has been discovered to be important in value and job creation Acs et al., (2008). Reaching out to new markets and introduction of new products as well as patenting of original ideas lied solely in the hands of the owner manager as a way of demonstrating innovation in their specific enterprises.

**Table 4.8: Legal status**

<b>Legal status</b>	<b>Frequency</b>	<b>Percentage</b>
Sole proprietorship	280	88.4
Partnership Company	24	7.5
Private limited liability company	13	4.1
<b>Total</b>	<b>317</b>	<b>100</b>

#### **4.4.5. Kind of Business**

Table 4.9 shows the kind of businesses such that majority of the women businesses in the study area were owned and managed by women members representing 85.0% and very few businesses were women owned but not managed by members, representing 15%. This indicates that apart from ownership, women members are highly engaged in the management of these women businesses. Few women businesses were managed by non- members due to lack of expertise knowledge in running and managing their enterprise.

**Table 4.9: Kind of Business**

<b>Kind of Business</b>	<b>Frequency</b>	<b>Percentage</b>
Owned and managed by owners	268	85.0
Owned, but not managed by owners	48	15.0
<b>Total</b>	<b>317</b>	<b>100</b>

#### 4.4.6. Age of Business

The study sought to determine the age of businesses in the study area. It was found out that majority of businesses as shown in Table 4.10, were in operation for between 3- 5 years, representing 64.1% of the women businesses in the study area. About 2.6% of women businesses were below 5 years. Few businesses were old and have been in operation for more than 6 years accounting for 32.1%. It was noted that women businesses have been in existence while still new businesses are coming up and growing with time and this can be attributed by good policies the government of Rwanda has put in place for the past two decades. The findings confirm the Manu (2016) report of high failure rate of MSEs Where majority didn't go beyond the 6th anniversary. It further confirms the argument by Ngugi (2013) who revealed that more than half of small enterprises don't survive the fifth and sixth anniversaries.

**Table 4.10: Age of Business**

<b>Business Age</b>	<b>Frequency</b>	<b>Percentage</b>
Below 3 years	8	2.6
Between 3- 5 years	203	64.1
Between 6– 10 years	102	32.1
Above 10 years	4	1.2
<b>Total</b>	<b>317</b>	<b>100</b>

#### 4.4.7. Number of Employees

Apart from determining the age of the businesses, the study sought out to determine the number of employees working for the women businesses. Table 4.11 shows that majority of the women businesses had employee numbers below 10, representing 74.2% of the women businesses, while others had between 11- 20 employees accounting for 15.7%. About 5.7% of the women businesses had between 21-30 employees, and less than 4.4% of the women businesses had employed above 31. This implies that the nature of women businesses is small in terms of number of employees. These findings are consistent with the World Bank (2014) report which revealed low sustainability among MSEs as well as mortality rate.

**Table 4.11: Number of Employees**

<b>Employee Numbers</b>	<b>Frequency</b>	<b>Percentage</b>
Below 10	235	74.2
Between 11 – 20	50	15.7
Between 21 – 30	18	5.7
Above 31	14	4.4
<b>Total</b>	<b>317</b>	<b>100</b>

#### 4.4.8. Business Sales

It was important for the study to establish the sales generated by the women businesses to determine the growth and stability in business.

**Table 4.12: Business Sales (FRW per Month)**

<b>Sales</b>	<b>Frequency</b>	<b>Percentage</b>
Below 1,000,000	112	35.4
Between 1,000,001 – 5,000,000	153	48.2
Between 5,000,001 – 10,000,000	45	14.3
Between 10,000,001 – 15,000,000	5	1.5
Above 15,000,001	2	0.6
<b>Total</b>	<b>317</b>	<b>100</b>

As indicated in Table 4.12, majority of women businesses under the study were generating business sales of more than 1 million Rwanda frw, representing 48.2%. Few women businesses indicated their sales to be above five million but less than ten million Rwanda frw represents 14.3%. Other women businesses accounting for 35.4%, were able to generate business sales of less than 1,000,000 Frw.

At least 1.5% indicated business sales to be above ten million to fifteen million while 0.6% generate business sales above fifteen million Rwanda frw. This implies that, women businesses are able to generate good monthly sales for various reasons, among them, government empowering women in business industry and also being in existence in business for longer period and operating more than one business industry as they seek to diversify and grow their businesses.

#### 4.5. Growth of women micro Businesses Results

The study sought to determine the influence of entrepreneurial dimensions on growth of women micro business in Rwanda. Influences of entrepreneurial dimensions in this study were innovation, entrepreneurial training, entrepreneurial awareness and entrepreneurial finance.

##### 4.5.1. Sample Adequacy Results on growth of micro Business

To measure the suitability of the data for factor analysis, Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was used to measure the sample adequacy of each variable in the model. Ali *et al.* (2016), showed that the KMO index ranges from 0 to 1, with 0.5 and above considered suitable for factor analysis. The Bartlett's Test of Sphericity should be significant at  $p < 0.05$  for factor analysis to be suitable.

**Table 4.13: KMO and Bartlett's Test for Women Micro Business**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.843
	Approx. Chi-Square	1641.752
Bartlett's Test of Sphericity	Df	28
	Sig.	.000

From Table 4.13, the KMO measure of sampling adequacy results is 0.843. This indicates that factor analysis could be carried out as the KMO index was between 0 and 1. The Bartlett's test of Sphericity result is 0.000 which was within the acceptable level to test for significance and validity of the data. Rusuli, et al, (2013), explained that Measure of Sampling Adequacy should exceed 0.5 and for Bartlett's test of Sphericity the significant level of  $p$  at less than 0.05.

#### 4.5.2. Factor Analysis Results of Growth of Women Micro Business

The broad purpose of factor analysis is to summarize data so that relationships and patterns can easily be interpreted and understood. It is normally used to regroup variables into a limited set of clusters based on shared variance (Yong & Pearce, 2013).

**Table 4.14: Micro Business Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.424	55.296	55.296	4.424	55.296	55.296
2	1.640	20.501	75.797	1.640	20.501	75.797
3	.623	7.788	83.585			
4	.415	5.190	88.775			
5	.265	3.307	92.083			
6	.251	3.142	95.224			
7	.192	2.396	97.620			
8	.190	2.380	100.000			

Extraction Method: Principal Component Analysis.

Factor analysis was done on women micro Business variables where constructs were subjected to a variance test through the principal component analysis test. The principal component analysis was thus used for data reduction and interpretation of large set of data. All the measures of women micro business were subjected to factor analysis and the results showed that there were two factors extracted explaining women micro businesses which accumulated to 75.797% of the total variance in this construct. Factor one was the highest with 55.296%, while factor two had 20.501%. These two factors had their Eigen values greater than 1 and had the greatest influence on the women micro business as they explain about 75.797% of the total variance as shown in Table 4.14

### 4.5.3. Growth of Micro Business Rotation Component Matrix Results

Table 4.15 depicts the rotated component factor loadings for determinants of micro business measures. Component 1 was Profit which had the four constructs component 2 was Net worth which had four constructs and Component 3 was Sales turnover which had four constructs.

**Table 4.15: Rotated Component Matrix**

Opinion Statement	Component		
	ST	PF	NW
1. Profitability levels increased in the business		.875	
2. Profit gained is re-invested in the business		.847	
3. Profit generating activities increased as per the management.		.897	
4. Profit has increased assets		.784	
5. The net worth levels of women micro business are affected by Entrepreneurial dimensions.			.830
6. Expansion of business in other brunches			.883
7. Increased in market share			.904
8. Liability controls in business			.680
9. Recording sales	.952		
10. Sales turnover performance	.878		
11. Sales turnover increased entrepreneurial operations	.887		
12. Sales turnover impacts on growth	.948		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: PF = Profit, NW = Net worth, ST= Sales turnover

All the variables of women micro business had a factor loading of higher than 0.4 as shown in Table 4.15. Rusuli *et al.* (2013), showed that each individual variable must have value of 0.4 and above. Therefore, the component values indicate that they are highly interrelated with each other (rotated component analysis illustrated in Appendix 2).

#### 4.5.4. Descriptive Results of Growth

Growth was assessed by three measures namely, profit, firm's Net worth and sales turnover. Descriptive data shown on Table 4.16 presents the relevant results on a scale of 1 to 5 (where 5 = Strongly Agree and 1 = Strongly Disagree).

**Table 4.16: Descriptive Results of Women Micro Business**

<b>Variable</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Cronbach's Alpha</b>
Profit	4.2201	.44435	.887
Net-worth	4.1942	.39529	.865
Sales turnover	4.2307	.46228	.875

**KEY:** Scale 1= Strongly Disagree and 5 = Strongly Agree, Overall mean = 4.215, Overall Cronbach's Alpha = 0.889

Cronbach's alpha was used to test the reliability of the proposed constructs (Ali *et al.*, 2016). The findings indicated that profit had a coefficient of 0.887, net worth had a coefficient of 0.865 and sales turnover had coefficient 0.875. Micro Business measures (profit, net worth and sales turnover) depicted Cronbach's alpha of 0.889 which above the suggested value of 0.7 hence the study was reliable.

It was observed that the profit from business operations have been increasing every year and that such revenues are re-invested back to the business to achieve growth as indicated by mean score of 4.22. This finding is supported by De Voe and Iyengar (2010) that availability of resources (net profit) is a crucial requirement for long term net worth in micro business for realization of long-term goals.

It was also noted that the increased profit was as a result of proper financial controls practices undertaken by the women micro business. As profit increase and re-invested (ploughing) back to the business, resulted in the growth of women micro business. These findings are in line with study by Phillips (2012) that micro business aim at long-term value maximization rather than just grow profits on a short-term basis to satisfy shareholders. Findings were also supported by Alfred and Xiao (2013) that main source of capital for women firms are retained earnings and that women firms report higher sales growth and greater improvement in net margins for business compared with big business.

It was noted that, as much as the business operations were financed by debt, women businesses preferred less debt in order to increase net value (net-worth) of the firm hence women firm's net worth has been increasing as the firm experiences stable growth, as indicated by mean score of 4.19. This finding was supported by Lakew and Rao (2009) who pointed out that leverage improves financial performance hence growth of women business. Findings also supported by Phillips (2012) that women businesses use retained profits rather than loan capital for business growth.

It was observed that the sales turnover from business operations have been increasing every year and that such sales are re-invested back to the operations to achieve growth as indicated by mean score of 4.23. This finding is supported by Caves (2018), that increase in total sales (sales turnover) is a crucial requirement for long term revenue in micro business for realization of long-term objectives.

It was also established that growth of women micro Business has been as a result of influence of entrepreneurial dimensions practices undertaken by micro business. These findings were supported by Waweru and Ngugi (2014) that proper entrepreneurial dimensions practices influenced influence growth of micro business. Consistent with these findings, Turyahebwa (2013) asserts that an important factor to the women micro business and survival of a business is entrepreneurial dimensions that increases firm's net profit.

#### **4.6. Innovation Results**

The first objective of the study was to determine the influence of innovation on the women micro business in Rwanda. This objective was operationalized by three measures namely; creativity strategy, New ideal management and Risk management and ten constructs were tested for factor analysis.

##### **4.6.1. Sample Adequacy Results of Innovation**

The KMO and Bartlett's tests were used to test the correlation between Innovation variables. The KMO measure of sample adequacy results is 0.846 as shown in Table 4.17.

**Table 4.17: KMO and Bartlett's Test for Innovation**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.835
	Approx. Chi-Square	3290.228
Bartlett's Test of Sphericity	Df	21
	Sig.	.000

This value indicates good partial correlation exhibited in the data for this study. Ali *et al.* (2016), showed that the KMO index ranges from 0 to 1, with 0.5 and above considered suitable for factor analysis. For the Bartlett's Test of Sphericity, p-value should be less than 0.05 for factor analysis to be suitable. The Bartlett's Test of Sphericity was used at significant level of  $p < 0.05$  to confirm sufficient correlation among the innovation variables. The Bartlett's Test of Sphericity result is 0.000 which shows high significance. Rusuli *et al.* (2013), explained that Measure of Sampling Adequacy should exceed 0.5 and for Bartlett's test of Sphericity the p-value should be less than 0.05.

#### **4.6.2. Innovation Data Normality Test Results**

Normality was used to test for significance and construction of confidence interval estimates of the parameters. The assumption is that the variables are normally distributed. In their study, Ali *et al.* (2016), showed that the assumptions and application of statistical tools as well as suitability of the tests are important aspects for statistical analysis. To check for normality, the study adopted the Skewness and Kurtosis test and Auto correlation test.

##### **a) Skewness and Kurtosis Test Results**

Measures of skewness is based on mean and median while kurtosis measures the peaked-ness of the curve of the frequency distribution (Kothari & Garg, 2014). The results presented in Table 4.18 show that a skewness coefficient of -0.05 and kurtosis coefficient of -0.47. Based on these results, it was concluded that data was normally distributed since their statistic values were between -1 and +1.

**Table 4.18: Skewness and Kurtosis**

Variable	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Innovation	317	-.050	.139	-.470	.275

**b) Durbin-Watson Test Results**

A high degree of correlation among residuals of the regressions' data sets may produce inefficient results. As such, the presence of serial correlation among the OLS regressions is checked using Durbin and Watson's test statistic (Yupitun, 2008).

**Table 4.19: Durbin-Watson (Autocorrelation) Results**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.597 <sup>a</sup>	.356	.352	.33524	1.946

a. Predictors: (Constant), Creativity strategy, Idea management

b. Dependent Variable: Profit

Durbin-Watson statistic ranges in value from 0 to 4 with an ideal value of 2 indicating that errors are not correlated, although values from 1.75 to 2.25 may be considered

acceptable. Some authors consider Durbin-Watson value between 1.5 and 2.5 as acceptable level indicating no presence of collinearity (Makori & Jagongo, 2013). Durbin-Watson value of 1.946 indicates that the model did not suffer from autocorrelation.

#### 4.6.3. Factor Analysis Results of Innovation

The study sought to determine the influence of innovation on the women micro business in Rwanda. Innovation was assessed by three measures namely; creativity strategy, new Idea management and risk management. Eight constructs were tested for factor analysis.

Through factor analysis, two factors were identified which had the biggest influence on innovation with cumulative variance of 93.134%. Factor one was the highest with 74.116% while factor two had 19.112% of total variance. These two factors had their Eigen values greater than 1 and had the greatest influence on innovation and explain about 70.836% of variance as shown in Table 4.20.

**Table 4.20: Innovation Total Variance Explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.447	74.112	74.116	2.824	47.074	47.074
2	1.147	19.112	93.224	2.769	46.150	93.134
3	.190	3.167	96.392			
4	.150	2.504	98.896			
5	.048	.799	99.695			
6	.018	.305	100.000			

Extraction Method: Principal Component Analysis.

#### 4.6.4. Innovation Rotated Component Matrix Results

Table 4.21 depicts the rotated component factor loadings for determinants of innovation measures. Component 1 was creativity strategy which had four constructs and Component 2 was Idea management had four constructs.

**Table 4.21: Innovation Rotated Component Matrix**

Opinion Statement	Component	
	CS	IM
1. Innovative initiative in the business are supported and .developed		.913
2. Creativity and persuasiveness are supported in the business		.910
3. Innovation lead to growth of business		.916
4. Business motivate members for their innovation and persuasiveness		.900
5. Risk management controls are in place to mitigate on risk		.938
6. At every stage of innovation business involves all the workers		.916
7. Innovation influences entrepreneurial dimensions in women business		.930
8. New idea management is taken very important in the business		.932

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: CS = Creativity Strategy, IM = Idea management

All the variables of innovation have a factor loading of higher than 0.4. Therefore, the component values indicate that they are highly interrelated with each other (rotated component analysis as illustrated in Appendix 2).

#### 4.6.5. Descriptive Results of Innovation

Innovation was assessed by two measures namely Creativity strategy and new idea management. Descriptive data shown on Table 4.22 presents the relevant results on a scale of 1 to 5 (where 5 = Strongly Agree and 1 = Strongly Disagree).

**Table 4.22: Innovation Descriptive Results**

Variable	Mean	Std. Deviation	Cronbach's Alpha
Creativity strategy	4.2166	.49043	.966
Idea management	4.4649	.60047	.962

**KEY:** Scale 1= Strongly Disagree and 5 = Strongly Agree, Overall mean = 4.

3413, Overall Cronbach's Alpha = 0.941

Cronbach's alpha was used to test the reliability of the proposed constructs (Ali *et al.*, 2016). The findings indicated that creativity strategy had a coefficient of 0.966 while new idea management had a coefficient of 0.962. Innovation measures (creativity strategy and idea management) depicted Cronbach's alpha of 0.941 which is above the suggested value of 0.7 hence the study was reliable.

It was established that basic idea management acquired from higher learning institutions provides new opportunities in women micro business and that women business had the ability to understand entrepreneurial dimensions, enabling them to make sound decisions

as indicated by mean score of 4.22. It was also established that women business that had formal education were called upon for advice to support decisions to be made by the business. These findings were consistent with study by Awais *et al.* (2016) and Njoroge (2013) where they assert that Innovation is the ability to use knowledge and skills to manage financial resources effectively.

It was observed that women micro business members acquired their formal business education through formal trainings at higher learning institutions and as a result of accessing such vital knowledge, they are able to better understand creativity matters and to set realistic goals for the women businesses, as indicated by mean score of 4.47. It was also established that creativity strategy enabled the managers to carry out the routine operational functions. This is supported by Bunyasi *et al.* (2014) where they showed that access to business information has a positive influence on the growth of businesses.

#### **4.6.6. Innovation Correlations Results**

Correlation analysis was used to establish the strength and nature of the relationship between innovation measures and women micro business.

Table 4.23 shows correlation matrix showing the correlation analysis with varied degree of interrelationship between creativity strategy, idea management and women micro Business (in profit, net worth and sales turnover) of micro business.

The Pearson correlation coefficient was generated at 0.01 significance level (2-tailed). The output indicates a strong positive relationship between innovation measures (creativity strategies and Idea management), entrepreneurial competency and women micro business (in profit and change in net-worth),  $p = 0.000$ . The  $p$ -value  $< 0.01$ , significant at 0.01 level as the correlation matrix indicates.

There is a strong relationship between creativity strategies and Idea management and profit on women businesses (creativity strategy,  $\rho = 0.588$  and Idea management,  $\rho = 0.441$ ). A strong relationship also exists between creativity strategy and Idea

management and change in net worth of women micro businesses (creativity strategy,  $\rho = 0.446$  and Idea management,  $\rho = 0.667$ ).

Therefore, innovation measures (creativity strategy and Idea management) are very important factors in the women micro business (in profit and change in net worth) of micro business. This is supported by Bunyasi et al. (2014) where they showed that access to business information has a positive influence on the growth of businesses.

#### 4.6.7. Innovation Goodness-of-fit Model Results

The results on Table 4.23 showed that innovation measures (creativity strategy and idea management) had explanatory power on the profit of micro businesses as it accounted for 35.4% of its variability (R Square = 0.354) on Model 1, hence the model is a good fit for the data. This implies that there is a moderate positive relationship between innovation measures (creativity strategies and Idea management) and profit of women micro businesses.

**Table 4.23: Innovation Model Summary on profit**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.597 <sup>a</sup>	.354	.352	.33518

a. Predictors: (Constant), Creativity strategy, Idea management

b. Dependent Variable: Profit

**Table 4.24: Innovation Model Summary on Net-worth**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.669 <sup>a</sup>	.437	.444	.35315

a. Predictors: (Constant), Creativity strategy, idea management

b. Dependent Variable: Net-worth  
The results on Table 4.24 showed that innovation measures (creativity strategy and idea management) had explanatory power on change in net-worth of women micro businesses as it accounted for 43.7% of its variability (R Square = 0.437) on Model 1, hence the model is a good fit for the data. This implies that there is a moderate positive relationship between innovation measures (creativity strategy and idea management) and change in net-worth of micro businesses.

**Table 4.25: Innovation Model Summary on Sales turnover**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.669 <sup>a</sup>	.446	.431	.35315

a. Predictors: (Constant), Creativity strategy, idea management

b. Dependent Variable: Sales turnover

The results on Table 4.25 showed that innovation measures (creativity strategy and idea management) had explanatory power on the sales turnover on micro businesses as it accounted for 44.6% of its variability (R Square = 0.446) on Model 1, hence the model is a good fit for the data.

This implies that there is a moderate positive relationship between innovation measures (creativity strategies and Idea management) and sales turnover of women micro businesses.

#### 4.6.8. Innovation ANOVA Results

Table 4.26 presents the analysis of variance of the study on innovation measures (creativity Strategy and Idea management) and profit of micro business. The results reveal that a significant relationship exists between creativity Strategy, ideal management and profit on women micro business ( $F = 84.546$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.26: Innovation ANOVA– Profit Results**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	19.010	2	9.505	84.546	.000 <sup>b</sup>
Residual	34.400	315	.112		
Total	53.410	317			

a. Dependent Variable: Profit

b. Predictors: (Constant), Creativity strategy, idea management

If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

**Table 4. 27: Innovation ANOVA – Net worth**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	30.945	2	15.472	124.059	.000 <sup>b</sup>
Residual	38.164	315	.125		
Total	69.108	317			

a. Dependent Variable: net-worth

b. Predictors: (Constant), Creativity Strategy, idea management

Table 4.27 presents the analysis of variance of the study on innovation measures (creativity Strategy and Idea management) and change in net-worth of women micro businesses. The results reveal that a significant relationship exists between creativity Strategy and Idea management and change in net-worth of women micro businesses ( $F = 124.059$ ,  $p = 0.000$ ) as indicated in Model1. From the significance value, the measures of innovation (creativity Strategy and Idea management) are indeed different from each other and they affect the change in net-worth of women businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

**Table 4.28: Innovation ANOVA– Sales turnover**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	29.210	2	7.401	82.435	.000 <sup>b</sup>
Residual	44.100	315	.132		
Total	63.410	317			

a. Dependent Variable: sales turnover

b. Predictors: (Constant), Creativity strategy, idea management

Table 4.28 presents the analysis of variance of the study on innovation measures (creativity Strategy and Idea management) and sales turnover of micro business. The results reveal that a significant relationship exists between creativity Strategy, ideal management and sales turnover on women micro business ( $F = 82.436$ ,  $p = 0.000$ ) as indicated in Model 1.

If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

#### **4.6.9. Regression Results of Innovation and profit**

To establish the influence of innovation measures, that is, creativity strategy and idea management, on the micro business (profit) of women micro businesses in Rwanda, the following null hypothesis was tested:

H<sub>01</sub>: There is no influence of innovation on growth of women micro businesses in Rwanda.

Regression analysis was conducted to empirically determine whether innovation measures (creativity and new idea management) had significant influence on the profit of women micro business in Rwanda.

**Table 4.29: Regression Coefficients of innovation and profit**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.992	.173		11.520	.000
Creativity	.439	.050	.516	8.760	.000
1 strategy (X <sub>1</sub> )					
New idea	.083	.041	.119	2.000	.044
Management (X <sub>2</sub> )					

a. Dependent Variable: Profit

Table 4.29 displays the regression coefficients results of the innovation measures (that is, creativity strategy and idea management). Creativity strategy (supported by  $\beta=0.516$ , p-value = 0.000) and idea management (supported by  $\beta=0.119$ , p-value = 0.000) are statistically significant in explaining profit of micro businesses in Rwanda.

The influence of innovation measures (creativity strategy and idea management) is therefore significant indicating that the greater the levels of innovation by women micro business, the greater the profit generated from their businesses.

Thus, higher levels of innovation among women business managers are associated with increased growth of women businesses.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and  $p\text{-value} < 0.05$ . The regression model is summarized as shown by equation 4.1.

$$Y = 1.992 + 0.439X_1 + 0.083X_2 \dots \dots \dots \text{Equation 4.1}$$

Where,

Y – Net profit,  $X_1$  – creativity strategy, and  $X_2$  – Idea management.

It was concluded that there is statistically significant relationship between innovation measures (creativity strategy and idea management) and profit of women micro business in Rwanda. Thus, higher levels of innovation among women micro businesses that is associated with increased women businesses in Rwanda.

#### **4.6.10. Regression Results of Innovation and net worth**

To establish the influence of innovation measures (creativity strategy and idea management), on the measures of (net worth) of women micro business in Rwanda, the following null hypothesis was tested:

$H_{01}$ : There is no influence of innovation on growth of women micro business (net worth) in Rwanda.

Regression analysis was conducted to empirically determine whether innovation measures (creativity strategy and idea management) had significant influence on the net worth on women micro business in Rwanda.

**Table 4.30: Regression Coefficients of innovation and Change in Net-worth**

Model	Unstandardized		Standardized	T	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	2.019	.182		11.088	.000
Creativity	.049	.052	.050	.923	.046
1 strategy (X <sub>1</sub> )					
Idea	.503	.043	.637	11.674	.000
Management (X <sub>2</sub> )					

a. Dependent Variable: Change in Net-worth

Table 4.30 displays the regression coefficients results of the innovation measures (that is, creativity strategy and idea management). Creativity strategy (supported by  $\beta=0.050$ , p-value = 0.046) and idea management (supported by  $\beta=0.637$ , p-value = 0.000) are statistically significant in explaining change in net-worth of micro businesses in Rwanda.

The influence of innovation measures (creativity strategy and idea management) is therefore significant indicating that the greater the levels of innovation by micro business the greater the change in net-worth generated from their businesses. Thus, higher levels of innovation among women micro businesses.

Therefore, that the null hypothesis is rejected since  $\beta \neq 0$  and  $p\text{-value} < 0.05$ . The regression model is summarized by equation 4.2.

$$Y = 2.019 + 0.049X_1 + 0.503X_2 \dots\dots\dots \text{Equation 4.2}$$

Where,

Y – Change in net-worth,  $X_1$  – creativity strategy and  $X_2$  – idea management.

According to Ndikubwimana, (2016) indicated that innovative technology strategies are key resources for gaining competitive advantage. Enterprises focusing on innovation achieve not only competitiveness but also are able to sustain themselves for a longer period of time. The findings concluded that there is statistically significant relationship between innovation measures (creativity strategy and idea management) and change in net-worth of women micro businesses in Rwanda. Thus, higher levels of innovation practices among women micro businesses which increased growth of women micro businesses in Rwanda.

#### **4.6.11. Regression results of innovation and sales turnover**

To establish the influence of innovation measures, that is, creativity strategy and idea management, on the micro business (Sales turnover) of women micro businesses in Rwanda, the following null hypothesis was tested:

H<sub>01</sub>: There is no influence of innovation on growth of women micro businesses in Rwanda.

Regression analysis was conducted to empirically determine whether innovation measures (creativity and new idea management) had significant influence on the sales turnover of women micro business in Rwanda.

**Table 4.31: Regression coefficients of innovation and sales turnover**

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	2.104	.123		12.510	.000
Creativity					
1 strategy (X <sub>1</sub> )	.153	.051	.512	8.710	.000
New idea					
Management (X <sub>2</sub> )	.041	.046	.109	2.000	.044

a. Dependent Variable: Sales turnover

Table 4.31 displays the regression coefficients results of the innovation measures (that is, creativity strategy and idea management). Creativity strategy (supported by  $\beta=0.514$ , p-value = 0.000) and idea management (supported by  $\beta=0.109$ , p-value = 0.000) are statistically significant in explaining profit of micro businesses in Rwanda.

The influence of innovation measures (creativity strategy and idea management) is therefore significant indicating that the greater the levels of innovation by women micro business, the higher the sales turnover generated from their businesses. Thus, higher levels of innovation among women business managers are associated with increased growth of women businesses.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and  $p\text{-value} < 0.05$ . The regression model is summarized as shown by equation 4.3.

$$Y = 2.104 + 0.153X_1 + 0.041X_2 \dots \dots \dots \text{Equation 4.3}$$

Where,

$Y$  – Net profit,  $X_1$  – creativity strategy, and  $X_2$  – Idea management.

It was concluded that there is statistically significant relationship between innovation measures (creativity strategy and idea management) and profit of women micro business in Rwanda. Thus, higher levels of innovation among women micro businesses that is associated with increased women businesses in Rwanda.

#### **4.7. Entrepreneurial training Results**

The study sought to determine the influence of Entrepreneurial training on women micro businesses in Rwanda. Entrepreneurial training was operationalized by three measures namely; entrepreneurial competitiveness, Customer relationship strategy and Business skill management where eight factors were assessed and tested for factor analysis.

##### **4.7.1. Sample Adequacy Results of Entrepreneurial training**

The KMO and Bartlett’s tests were used to test the correlation between entrepreneurial training variables. The KMO measure of sample adequacy results is 0.744 as shown in Table 4.32. This indicates good partial correlation exhibited in the data for this study.

**Table 4. 32: KMO and Bartlett's Test for entrepreneurial training**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.744
	Approx. Chi-Square	2032.969
Bartlett's Test of Sphericity	Df	21
	Sig.	.000

Ali *et al.* (2016), showed that the KMO index ranges from 0 to 1, with 0.5 and above considered suitable for factor analysis. For the Bartlett's Test of Sphericity, p-value should be less than 0.05 for factor analysis to be suitable. The Bartlett's Test of Sphericity was used at significant level of  $p < 0.05$  to confirm sufficient correlation among the entrepreneurial training variables. The Bartlett's Test of Sphericity significance result is 0.000 which shows high significance. Rusuli *et al.* (2013), explained that Measure of Sampling Adequacy should exceed 0.5 and for Bartlett's test of Sphericity the p-value should be less than 0.05.

#### **4.7.2. Entrepreneurial training Data Normality Test Results**

Normality was used to test for significance and construction of confidence interval estimates of the parameters. The assumption is that the variables are normally distributed. In their study, Ali *et al.* (2016), showed that the assumptions and application of statistical tools as well as suitability of the tests are important aspects for statistical analysis. To check for normality, the study adopted the Skewness and Kurtosis test and Auto correlation test.

##### **a) Skewness and Kurtosis Results**

Measures of skewness is based on mean and median while kurtosis measures the peaked-ness of the curve of the frequency distribution (Kothari & Garg, 2014). The results presented in Table 4.30 show that a skewness coefficient of 0.126 and kurtosis coefficient of 0.365. Based on these results, it was concluded that data was normally distributed since their statistic values were between -1 and +1.

**Table 4.33: Skewness and Kurtosis Test Results**

Variable	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Entrepreneurial training	317	.126	.139	.365	.276

**b) Durbin-Watson Test Results**

A high degree of correlation among residuals of the regressions' data sets may produce inefficient results. As such, the presence of serial correlation among the OLS regressions is checked using Durbin and Watson's test statistic (Yupitun, 2008).

**Table 4.34: Durbin-Watson (Autocorrelation) Test Results**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.630 <sup>a</sup>	.397	.393	.32440	1.802

a. Predictors: (Constant), entrepreneurial competitiveness, Business skill management

b. Dependent Variable: Profit

Durbin-Watson statistic ranges in value from 0 to 4 with an ideal value of 2 indicating that errors are not correlated, although values from 1.75 to 2.25 may be considered acceptable. Some authors consider Durbin-Watson value between 1.5 and 2.5 as acceptable level indicating no presence of collinearity (Makori & Jagongo, 2013). Durbin-Watson value of 1.802 indicates that the model did not suffer from autocorrelation.

#### 4.7.3. Factor Analysis Results of Entrepreneurial training

Factor analysis was done on entrepreneurial training variables where constructs were subjected to a variance test through the principal component analysis test.

**Table 4.35: Entrepreneurial training Variance Explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.073	63.417	63.417	3.901	48.761	48.761
2	1.381	17.259	80.676	2.553	31.915	80.676
3	.647	8.086	88.761			
4	.427	5.343	94.104			
5	.324	4.055	98.159			
6	.147	1.841	100.000			
7	3.958E-017	4.948E-016	100.000			
8	-3.640E-017	-4.550E-016	100.000			

The principal component analysis was thus used for data reduction and interpretation of the large set of data. Through factor analysis, two factors were identified which had the biggest influence on entrepreneurial training with cumulative variance of 80.676%. Factor one was the highest with 63.417%, while factor two had 17.259% of total variance. These two factors had their Eigen values greater than 1 and had the greatest influence on entrepreneurial training and explain about 80.676% of variance as shown in Table 4.35.

#### 4.7.4. Entrepreneurial training Rotation Component Matrix Results

Table 4.36 depicts the rotated component factor loadings for determinants of training measures. Component 1 was Entrepreneurial competitiveness which had four constructs and Component 2 was business skill development and customer relations which had four constructs.

**Table 4.36: Entrepreneurial training Rotated Component Matrix**

Opinion Statement	Component	
	EC	BSD
1. Entrepreneurial training is taken as priority in business	.893	
2. A person to competitive require trainings	.894	
3. Entrepreneurial training impact on entrepreneurial dimensions		.719
On growth of women micro business		
4. Focus business skills development to the members	.774	
5. Training on customer behaviors and relations between Business and customer		.893
6. Government has improved training to equip women with skills		.894
And competences for entrepreneurial development		
7. Structure training are often used in training guidelines		.911
8. Training challenges act as setback to business development.		.891

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: EC = Entrepreneurial competitiveness, BSD = Business skill management & customer relations

All the variables of micro Business had a factor loading of higher than 0.4. Rusuli et al. (2013), showed that each individual variable must have value of 0.4 and above. Therefore, the component values indicate that they are highly interrelated with each other (rotated component analysis as illustrated in Appendix 2).

#### 4.7.5. Descriptive Results of Entrepreneurial training

Entrepreneurial training was assessed by two measures namely entrepreneurial competitiveness and business skill management. Descriptive data shown on Table 4.37 presents the relevant results on a scale of 1 to 5 (where 5 = Strongly Agree and 1 = Strongly Disagree).

**Table 4.37: Entrepreneurial training Descriptive Result**

Variable	Mean	Std. Deviation	Cronbach's Alpha
Entrepreneurial competitiveness	4.1675	.39639	.799
Business skill & customer relations	4.2306	.42833	.826

**KEY:** Scale 1= Strongly Disagree and 5 = Strongly Agree, Overall mean = 4.1991, Overall Cronbach's Alpha = 0.918

Cronbach's alpha was used to test the reliability of the proposed constructs (Ali *et al.*, 2016). The findings indicated that Entrepreneurial competitiveness had a coefficient of 0.799 while Business skill management had a coefficient of 0.826. Entrepreneurial Training measures (Entrepreneurial competitiveness and Business skill management) depicted Cronbach's alpha of 0.918 which is above the suggested value of 0.7 hence the study was reliable.

It was noted that women micro business experienced difficulty in accessing trainings for their businesses due to lack of financial resources as indicated by mean score of 4.34. As pointed out by Harashi et al. (2014), access to finance is essential to the survival and growth of any business enterprise, as it is the life-blood of any business enterprise, no matter how well managed, no enterprise can survive without enough funds for working capital, fixed assets net worth, employment of skilled employees.

These findings are consistent with findings by Le Breton-Miller and Miller (2006) where they point out that women micro businesses invite long-term net worth s and increase the resources (funds) to invest. On average, women business activities were financed by debt from financial institutions (commercial banks) and as far as possible, the debt acquired by women business were maintained at less than 50%. This finding is supported by Dwaikat et al. (2014), that lower levels of debt are preferred reducing the risk of bankruptcy.

It was also observed that the external debt acquired by women businesses were mostly used for long-term net worth purposes not for training purposes. These findings were consistent with study done by Alfred and Xaio (2013) where they point out the difficulty women businesses face when it comes to training and empowering their members. These findings were also in agreement with Phillips (2012) that women firms borrow less, preferring internal sources and avoiding long-term debt.

#### **4.7.6. Entrepreneurial training Correlations Results**

Correlation analysis was used to establish the strength and nature of the relationship between entrepreneurial training measures (entrepreneurial competitiveness, Customer relationship strategy and business skill management), Women micro business (Profit, net worth and sales turnover) of women micro business.

Table 4.38 shows correlation matrix showing the correlation analysis with varied degree of interrelationship between entrepreneurial competitiveness, business risk development,

and women micro business (in terms of profit, net worth and sales turnover) of micro business.

**Table 4.38: Entrepreneurial training Correlation Results**

		ES	CR	BSD	PR	NW	ST
Entrepreneurial competitiveness (EC)	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	317					
Customer relations (CR)	Pearson Correlation	.855**	1				
	Sig. (2-tailed)	.000					
	N	317	317				
Business skill management (BSD)	Pearson Correlation	.386**	.398**	1			
	Sig. (2-tailed)	.000	.000				
	N	317	317	317			
Profit (PR)	Pearson Correlation	.622**	.583**	.344**	1		
	Sig. (2-tailed)	.000	.000	.000			
	N	317	317	317	616		
Net Worth (NW)	Pearson Correlation	.632**	.678**	.480**	.464**	1	
	Sig. (2-tailed)	.000	.000	.000	.000		
Sales turnover (ST)							1
	N	371	317	317	317	317	317

Correlation is significant at the 0.01 level (2-tailed).

KEY: CR = Entrepreneurial competitiveness, CR = Customer relation, BSD = Business skill management  
PR = Profit, NW = Net worth

The Pearson correlation coefficient was generated at 0.01 significance level (2-tailed). The output indicates a strong positive relationship between entrepreneurial training (entrepreneurial competitiveness, Customer relationship strategy and business skill management) and women micro business (Profit and change in net-worth) of micro business in Bugesera,  $p = 0.000$ . The  $p$ -value  $< 0.01$ , significant at 0.01 level as the correlation matrix indicates. There is a strong relationship between entrepreneurial competitiveness, Customer relationship strategy and business skill management, and profits of women micro businesses (business skill management,  $\rho = 0.622$  and entrepreneurial competitiveness, Customer relationship strategy,  $\rho = 0.583$ ). There is also a strong relationship between business skill management and entrepreneurial competitiveness, Customer relationship strategy, and change in net-worth of women micro businesses (business skill management,  $\rho = 0.632$  and Customer relationship strategy,  $\rho = 0.678$ ).

Therefore, the entrepreneurial training measures (Entrepreneurial competitiveness and Business skill management) are very important factors in micro business (profit and change in net-worth) of women micro businesses. This is supported by Aguinis, and Kraiger (2009), where they showed that training and development is an important determinant of the performance of any enterprises.

#### **4.7.7. Entrepreneurial training Goodness-of-fit Model Results**

The results on Table 4.39 showed that entrepreneurial training measures (Entrepreneurial competitiveness and Business skill management) had explanatory power on women micro businesses as it accounted for 39.7% of its variability (R Square = 0.397) as indicated in Model 1, hence the model is a good fit for the data. This implies that there is positive relationship between entrepreneurial training measures (Entrepreneurial competitiveness and Business skill management) and profit of women micro businesses.

**Table 4.39: Entrepreneurial Training Model Summary on profit**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.630 <sup>a</sup>	.397	.393	.32440

a. Predictors: (Constant), Entrepreneurial competitiveness and Business skill management, customer relation.

b. Dependent Variable: Profit

The results on Table 4.39 showed that entrepreneurial training measures (entrepreneurial competitive and business risk management) had explanatory power on change in profit of women micro business as it accounted for 46.9% of its variability (R Square = 0.469) as indicated in Model 1, hence the model is a good fit for the data. This implies that there is a moderate positive relationship between entrepreneurial training measures (entrepreneurial competitiveness and Business risk management) and change in profit of women micro business.

**Table 4.40: Entrepreneurial training Model Summary on net worth**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.685 <sup>a</sup>	.469	.466	.34615

a. Predictors: (Constant), Entrepreneurial competitiveness and Business skill management, customer relation

b. Dependent Variable: Net-worth

#### 4.7.8. Entrepreneurial training Model summary on sales turnover

The results on Table 4.40 showed that entrepreneurial training measures (Entrepreneurial competitiveness and Business skill management) had explanatory power on women micro businesses as it accounted for 33.9% of its variability (R Square = 0.339) as indicated in Model 1, hence the model is a good fit for the data. This implies that there is a positive relationship between entrepreneurial training measures (Entrepreneurial competitiveness and Business skill management) and profit of women micro businesses.

**Table 4.41: Entrepreneurial Training Model Summary on sales turnover**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.672 <sup>a</sup>	.339	.394	.33440

a. Predictors: (Constant), Entrepreneurial competitiveness and Business skill management, customer relation.

b. Dependent Variable: Sales turnover

#### 4.7.9. Entrepreneurial training ANOVA Results

Table 4.42 presents the analysis of variance of the study on entrepreneurial training measures (entrepreneurial competitive, customer relationship strategy and Business risk management) and profit of women micro businesses. The results reveal that a significant relationship exists between entrepreneurial competitiveness, customer relationship strategy and Business risk management, and profit of women micro businesses ( $F = 100.763$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.42: Entrepreneurial training ANOVA – Profit Results**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	21.208	2	10.604	100.763	.000 <sup>b</sup>
Residual	32.202	315	.105		
Total	53.410	317			

a. Dependent Variable: Profit

b. Predictors: (Constant), entrepreneurial competitiveness & Business skill management, customer relations

From the significance value, the measures of entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and Business risk management) are indeed different from each other and they affect the profit of women micro businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

**Table 4.43: Entrepreneurial training ANOVA – Change in net worth Results**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1 Regression	32.444	2	16.222	135.387	.000 <sup>b</sup>
Residual	36.665	315	.120		
Total	69.108	317			

a. Dependent Variable: Net worth

b. Predictors: (Constant), entrepreneurial competitiveness & Business skill management, customer relations

Table 4.43 presents the analysis of variance of the study on entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and Business risk management) and net-worth of women micro businesses. The results reveal that a significant relationship exists between entrepreneurial competitiveness, customer relationship strategy and Business skills development, and change in net-worth of women micro businesses ( $F = 135.387, p = 0.000$ ) as indicated in Model 1.

From the significance value, the measures of entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and Business risk management) are indeed different from each other and they affect the change in net-worth of women businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

**Table 4.44: Entrepreneurial training ANOVA – Sales turnover Results**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	31.544	2	16.122	153.231	.000 <sup>b</sup>
1 Residual	32.665	315	.120		
Total	64.108	317			

a. Dependent Variable: Sales turnover

b. Predictors: (Constant), entrepreneurial competitiveness & Business skill management, customer relations

Table 4.44 presents the analysis of variance of the study on entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and Business risk management) and sales turnover of women micro businesses. The results reveal that a significant relationship exists between entrepreneurial competitiveness, customer relationship strategy and Business skills development, and sales turnover of women micro businesses ( $F = 153.231$ ,  $p = 0.000$ ) as indicated in Model 1.

From the significance value, the measures of entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and Business risk management) are indeed different from each other and they affect the sales turnover of women businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

#### **4.7.10. Regression Results of Entrepreneurial training and profit**

To establish the influence of entrepreneurial training measures (entrepreneurial competitiveness and business risk management and customer relationship strategy) on profit of women micro businesses in Rwanda, the following hypothesis was tested:

H<sub>01</sub>: There is no influence of entrepreneurial training on growth of women micro businesses in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and Business risk management) had significant influence on profits of women micro businesses in Rwanda.

**Table 4.45: Regression Coefficients of entrepreneurial training and profit**

Mode 1		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	1.411	.198		7.134	.000
	Entrepreneurial competitiveness	.482	.090	.459	5.365	.000
1	(X <sub>1</sub> ) Business skill management &  customer relations (X <sub>2</sub> )	.186	.083	.191	2.239	.026

a. Dependent Variable: Profit

Table 4.45 displays the regression coefficients results of the entrepreneurial training, that is, entrepreneurial competitiveness, customer relationship strategy and business skill management. Entrepreneurial competitiveness (supported by  $\beta=0.459$ , p-value = 0.000) and business skill management and customer relationship (supported by  $\beta=0.191$ , p-value = 0.000) are statistically significant in explaining profit of women micro businesses in Rwanda.

The influence of entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and business skill management) is therefore significant indicating that the greater the levels of entrepreneurial training by women micro businesses, the greater the profit generated from their businesses. Thus, higher levels of

entrepreneurial training activities in women micro businesses are associated with increased growth women businesses in Rwanda.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and  $p\text{-value} < 0.05$ . The regression model is summarized by equation 4.4.

$$Y = 1.411 + 0.482X_1 + 0.186X_2 \dots \dots \dots \text{Equation 4.4}$$

Where,

$Y$  = Profit,  $X_1$  – Entrepreneurial competitiveness and  $X_2$  – Business skill management and customer relations

It was concluded that there is statistically significant relationship between entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and business skill management) and profit of women businesses in Rwanda. Thus, increased entrepreneurial training activities in women businesses which increased growth of women businesses.

#### **4.7.11. Regression Results of entrepreneurial training and net worth**

To establish the influence of entrepreneurial training measures (entrepreneurial competitiveness, business skill management) on net worth of women micro businesses in Rwanda, the following hypothesis was tested:

$H_{01}$ : There is no influence of entrepreneurial training on growth of women micro businesses in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial training measures (entrepreneurial competitiveness, customer relations and business skill management) had significant influence on change in profit of women micro businesses in Rwanda.

Table 4.46 displays the regression coefficients results of the entrepreneurial training measures, that is, entrepreneurial competitiveness, customer relations and business skill management. Entrepreneurial competitiveness (supported by  $\beta = 0.195$ , p-value = 0.016) and customer relations and business skill management (supported by  $\beta = 0.511$ , p-value = 0.000) are statistically significant in explaining change in profit of women businesses in Rwanda.

**Table 4.46: Regression Coefficients of entrepreneurial training and net worth**

Mode		Unstandardized		Standardized	t	Sig.
1		Coefficients		Coefficients		
		B	Std. Error	Beta		
	(Constant)	1.103	.211		5.228	.000
	Entrepreneurial competitiveness					
		.233	.096	.195	2.427	.016
1	(X <sub>1</sub> )					
	Business skill management & customer relations (X <sub>2</sub> )	.565	.089	.511	6.348	.000

a. Dependent Variable: net-worth

The influence of entrepreneurial training measures (entrepreneurial competitiveness, customer relations and business skill management) is therefore significant indicating that the greater the level of training by women micro businesses, the greater the profit generated from their businesses. Thus, higher levels of training activities in women micro business are associated with increased growth of women businesses.

Therefore, the null hypothesis rejected since  $\beta \neq 0$  and  $p\text{-value} < 0.05$ . The regression model is summarized by equation 4.5.

$$Y = 1.103 + 0.233X_1 + 0.565X_2 \dots \dots \dots \text{Equation 4.5}$$

Where,

$Y$  = Profit,  $X_1$  – entrepreneurial competitiveness and  $X_2$  – customer relations and business skill management.

#### **4.7.12. Regression Results of Entrepreneurial training and sales turnover**

To establish the influence of entrepreneurial training measures (entrepreneurial competitiveness and business risk management and customer relationship strategy) on sales turnover of women micro businesses in Rwanda, the following hypothesis was tested:

$H_{01}$ : There is no influence of entrepreneurial training on growth of women micro businesses in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and Business risk management) had significant influence on sales turnover of women micro businesses in Rwanda.

**Table 4.47: Regression coefficients of entrepreneurial training and sales turnover**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.314	.298		7.120	.000
1 Entrepreneurial competitiveness	.429	.080	.440	5.365	.000
(X <sub>1</sub> ) Business skill management & customer relations	.149	.086	.187	2.239	.015
(X <sub>2</sub> )					

a. Dependent Variable: Sales turnover

Table 4.47 displays the regression coefficients results of the entrepreneurial training, that is, entrepreneurial competitiveness, customer relationship strategy and business skill management. Entrepreneurial competitiveness (supported by  $\beta=0.440$ , p-value = 0.000) and business skill management and customer relationship (supported by  $\beta=0.187$ , p-value = 0.000) are statistically significant in explaining sales turnover of women micro businesses in Rwanda.

The influence of entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and business skill management) is therefore significant indicating that the greater the levels of entrepreneurial training by women micro businesses, the greater the sales turnover generated from their businesses. Thus, higher levels of entrepreneurial training activities in women micro businesses are associated with increased growth women businesses in Rwanda.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and p-value<0.05. The regression model is summarized by equation 4.6.

$$Y = 1.314 + 0.429X_1 + 0.149X_2 + \dots \quad \text{Equation 4.6}$$

Where,

$Y = \text{Profit}$ ,  $X_1 = \text{Entrepreneurial competitiveness}$  and  $X_2 = \text{Business skill management and customer relations}$

It was concluded that there is statistically significant relationship between entrepreneurial training measures (entrepreneurial competitiveness, customer relationship strategy and business skill management) and sales turnover of women businesses in Rwanda. Thus, increased entrepreneurial training activities in women businesses which increased growth of women businesses.

According to Vis et al., (2012) pointed out that the Rwandan government envisions to create a middle-income, knowledge-based society with a middle class of entrepreneurs as the backbone of development processes in which women and men equally participate. As a result, many women have been starting businesses and the percentage of female owned enterprises in the capital currently is 43.1 percent. Nevertheless, a lack of education and skills has been identified as performance barrier of women owned enterprises and across Rwanda self-employed women have indicated a need for education and training in order to improve their business practices. The findings concluded that there is statistically significant relationship between entrepreneurial training measures (entrepreneurial competitiveness, customer relations and business skill management) and profit, change in net-worth and sales turnover of women businesses in Rwanda. Thus, increased entrepreneurial training activities in women businesses are associated with increased growth of micro women businesses.

#### **4.8. Entrepreneurial awareness results**

The study sought to determine the influence of entrepreneurial awareness on women micro businesses in Rwanda. Entrepreneurial awareness was operationalized by three

sub variables namely, marketing strategy, entrepreneurial viability, promotion and publicity where ten factors were assessed and tested for factor analysis.

#### 4.8.1. Sample Adequacy Results of entrepreneurial awareness

The KMO and Bartlett’s tests were used to test the correlation between entrepreneurial awareness variables. The KMO measure of sample adequacy results is 0.866 as shown in Table 4.48.

**Table 4.48: KMO and Bartlett's test for entrepreneurial awareness**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.866
	Approx. Chi-Square	3003.241
Bartlett's Test of Sphericity	Df	28
	Sig.	.000

This value indicates good partial correlation exhibited in the data for this study. Ali *et al.* (2016), showed that the KMO index ranges from 0 to 1, with 0.5 and above considered suitable for factor analysis. For the Bartlett’s Test of Sphericity, p-value should be less than 0.05 for factor analysis to be suitable.

The Bartlett’s Test of Sphericity was used at significant level of  $p < 0.05$  to confirm sufficient correlation among the entrepreneurial awareness variables. The Bartlett’s Test of Sphericity result is 0.000 which shows high significance. Rusuli *et al.*, (2013), explained that Measure of Sampling Adequacy should exceed 0.5 and for Bartlett’s test of Sphericity the p-value should be less than 0.05.

#### 4.8.2. Entrepreneurial awareness Data Normality Test Results

Normality was used to test for significance and construction of confidence interval estimates of the parameters. The assumption is that the variables are normally distributed. In their study, Ali *et al.* (2016), showed that the assumptions and application

of statistical tools as well as suitability of the tests are important aspects for statistical analysis. To check for normality, the study adopted the Skewness and Kurtosis test and Auto correlation test.

#### **a) Skewness and Kurtosis Results**

Measures of skewness is based on mean and median while kurtosis measures the peaked-ness of the curve of the frequency distribution (Kothari & Garg, 2004). The results presented in Table 4.49 show that a skewness coefficient of 0.160 and kurtosis coefficient of -0.416. Based on these results, it was concluded that data was normally distributed since their statistic values were between -1 and +1.

**Table 4.49: Skewness and Kurtosis Test Results**

Variable	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Entrepreneurial awareness	317	.160	.139	-.416	.276

#### **b) Durbin-Watson Test Results**

A high degree of correlation among residuals of the regressions' data sets may produce inefficient results. As such, the presence of serial correlation among the OLS regressions is checked using Durbin and Watson's test statistic (Yupitun, 2008). Durbin-Watson statistic ranges in value from 0 to 4 with an ideal value of 2 indicating that errors are not correlated, although values from 1.75 to 2.25 may be considered acceptable. Some authors consider Durbin Watson value between 1.5 and 2.5 as acceptable level

indicating no presence of collinearity (Makori & Jagongo, 2013). Durbin-Watson value of 1.827 indicates that the model did not suffer from autocorrelation.

**Table 4.50: Durbin-Watson (Autocorrelation) Test**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>	<b>Durbin-Watson</b>
1	.606 <sup>a</sup>	.367	.363	.33237	1.827

a. Predictors: (Constant), Marketing strategy, entrepreneurial viability & promotion

b. Dependent Variable: Profit

#### **4.8.3. Factor analysis results entrepreneurial awareness**

Factor analysis was done on entrepreneurial awareness variables where constructs were subjected to a variance tests through the principal component analysis test. The principal component analysis was thus used for data interpretation.

All the measures of entrepreneurial awareness were subjected to factor analysis and the results showed that there were two factors extracted that were explaining - entrepreneurial awareness which had a cumulative of 87.748% of the total variance. Factor one which was the highest had 64.588%, while factor two had 23.160%. These two factors had their Eigen values greater than 1 and were considered to have the greatest influence on entrepreneurial awareness as it explains about 87.748% of the total variance as shown in Table 4.51.

**Table 4.51: Entrepreneurial awareness Total Variance Explained**

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.167	64.588	64.588	3.562	44.527	44.527
2	1.853	23.160	87.748	3.458	43.221	87.748
3	.312	3.905	91.653			
4	.249	3.116	94.769			
5	.157	1.964	96.733			
6	.133	1.664	98.396			
7	.092	1.150	99.546			
8	.036	.454	100.000			

Extraction Method: Principal Component Analysis.

#### **4.8.4. Entrepreneurial awareness Rotation Component Matrix Results**

Table 4.52 depicts the rotated component factor loadings for determinants of - entrepreneurial awareness measures. Component 1 was Entrepreneurial viability and promotion which had four constructs and Component 2 was marketing strategy which had four constructs.

**Table 4.52: Entrepreneurial awareness Rotated Component Matrix**

Opinion Statement	Component	
	EVP	MS
1. Business has marketing strategic plan		.929
2. The visibility of business in the area		.905
3. The extent to the established relations with customers		.948
4. Women micro business participate in visibility assessment		.810
5. The effect of entrepreneurial awareness on women Business	.874	
6. Promotion and publicity activities are carried out in business	.946	
7. Awareness challenges are issues for women business		.943
Profitability		
8. Awareness strategy applied by women business in the community		.885

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: EVP = Entrepreneurial viability & promotion, MS = Marketing strategy

All the components of entrepreneurial awareness variables has a factor loading of higher than 0.4. Therefore, the component values indicate that they are highly interrelated with each other (rotated component analysis as illustrated in Appendix 2).

#### **4.8.5. Descriptive Results of entrepreneurial awareness**

Entrepreneurial awareness was assessed by two measures namely marketing strategy and entrepreneurial viability and promotion. Descriptive data shown on Table 4.53 presents

the relevant results on a scale of 1 to 5 (where 5 = Strongly Agree and 1 = Strongly Disagree).

**Table 4.53: Entrepreneurial awareness Descriptive**

<b>Variable</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Cronbach's Alpha</b>
Entrepreneurial viability and promotion	4.1845	.40636	.957
Marketing strategy	4.4684	.57088	.946

**KEY:** Scale 1= Strongly Disagree and 5 = Strongly Agree, Overall mean = 4.3265, Overall Cronbach's Alpha = 0.818

Cronbach's alpha was used to test the reliability of the proposed constructs (Ali *et al.*, 2016). The findings indicated that Entrepreneurial viability and promotion had a coefficient of 0.957 while Marketing strategy had a coefficient of 0.946. Entrepreneurial awareness measures (Entrepreneurial viability and promotion and marketing strategy) depicted Cronbach's alpha of 0.818 which is above the suggested value of 0.7 hence the study was reliable.

It has been found out that awareness Campaign such as publicity, organizing trade fair, door to door are key strategies, were mostly invested in for both long-term and short-term marketing approach and also internal awareness was exploited in the business operations and this has resulted into growth of women micro business as indicated by mean score of 4.18. These findings were supported by Rodríguez-& Rueda (2011) who point out that Entrepreneurial attitudes derived in the awareness and that perceived control over entrepreneurial tasks is not a relevant predictor of start-up intentions in an awareness setting.

#### **4.8.6. Entrepreneurial awareness Correlations Results**

Correlation analysis was used to establish the strength and the nature of the relationship between entrepreneurial awareness measures (entrepreneurial viability and promotion and marketing strategy) and women micro business (Profit, net worth and sales turnover) in Rwanda.

Table 4.54 shows correlation matrix showing the correlation analysis with varied degree of interrelationship between entrepreneurial viability and promotion and marketing strategy and micro business (Profit, net worth and sales turnover) of women micro businesses.

**Table 4.54: Entrepreneurial awareness Correlation Results**

		<b>EVP</b>	<b>MS</b>	<b>PR</b>	<b>CNW</b>	<b>ST</b>
Entrepreneurial visibility	Pearson					
		1				
& promotions (EVP)	Correlation					
	Sig. (2-tailed)					
	N	317				
Marketing Strategy (MS)	Pearson	.479**	1			
	Correlation					
	Sig. (2-tailed)	.000				
Profit (PR)	N	317	317			
	Pearson	.580**	.431**	1		
	Correlation					
	Sig. (2-tailed)	.000	.000			
	N	317	317	616		
Change in Net Worth (CNW)	Pearson	.374**	.670**	.464**	1	
	Correlation					
	Sig. (2-tailed)	.000	.000	.000		
Sales turnover (ST)	N					1
	Pearson					
	Correlation	.372**	.677**	.465**		
	Sig. (2-tailed)	.000	.000	.000		
	N	317	317	317	317	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

KEY: EVP = Entrepreneurial viability & promotions, MS = Marketing strategy, PR = Profit, CNW = Change in net-worth

The Pearson correlation coefficient was generated at 0.01 significance level (2-tailed). The output indicates a strong positive relationship between entrepreneurial awareness (entrepreneurial viability & promotions and Marketing strategy) and micro business (that is, Profit, net worth and sales turnover) of women business in Rwanda,  $p = 0.000$ . The  $p$ -value  $< 0.01$ , significant at 0.01 level as the correlation matrix indicates.

There is a strong relationship between entrepreneurial viability and promotions and marketing strategy, and profit of women businesses (entrepreneurial viability & promotions,  $\rho = 0.580$  and marketing strategy,  $\rho = 0.431$ ). There is a moderate relationship between entrepreneurial viability & promotions and marketing strategy, and in profit of women businesses (entrepreneurial viability & promotions,  $\rho = 0.374$  and marketing strategy,  $\rho = 0.670$ ). Therefore, the entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) are very important factors in women micro business (in terms of Profit, net worth and sales turnover). This is supported by Le Breton-Miller and Miller (2006) where they showed that market strategy is important and intended to realize the long-term growth of women micro businesses.

#### **4.8.7. Entrepreneurial awareness Goodness-of-fit Model Results**

The results on Table 4.55 showed that entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) had explanatory power on profit of women businesses as it accounted for 36.7% of its variability (R Square = 0.367) as indicated in Model 1. This implies that there is a moderate positive relationship between entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) and profit of women micro business.

**Table 4.55: Entrepreneurial awareness Model on profit**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.606 <sup>a</sup>	.367	.363	.33237

a. Predictors: (Constant), entrepreneurial viability & promotions and Marketing strategy

b. Dependent Variable: Profit

**Table 4.56: Entrepreneurial awareness Model on net worth**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.672 <sup>a</sup>	.452	.449	.35177

a. Predictors: (Constant), entrepreneurial viability & promotions and Marketing strategy

b. Dependent Variable: Net-worth

The results on Table 4.56 showed the explanatory power of entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) had explanatory power on change in net-worth of women micro businesses as it accounted for 45.2% of its variability (R Square = 0.452) on Model 1, hence the model is a good fit for the data. This implies that there is a moderate positive relationship between entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) and change in net-worth of women micro businesses.

**Table 4.57: Entrepreneurial awareness Model on sales turnover**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.604 <sup>a</sup>	.432	.459	.36127

a. Predictors: (Constant), entrepreneurial viability & promotions and Marketing strategy

b. Dependent Variable: Sales turnover

The results on Table 4.57 showed the explanatory power of entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) had explanatory power on sales turnover of women micro businesses as it accounted for 43.2% of its variability (R Square = 0.432) on Model 1, hence the model is a good fit for the data. This implies that there is a moderate positive relationship between entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) and sales turnover of women micro businesses.

#### **4.8.8. Entrepreneurial awareness ANOVA Results**

Table 4.58 presents the analysis of variance of the study on entrepreneurial awareness measures (entrepreneurial viability & promotions and marketing strategy) and profit. The results reveal that a significant relationship exists between entrepreneurial viability & promotions, marketing strategy and profit of women micro businesses ( $F = 88.748$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.58: Entrepreneurial awareness ANOVA – profit Results**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	19.607	2	9.804	88.748	.000 <sup>b</sup>
1 Residual	33.803	315	.110		
Total	53.410	317			

a. Dependent Variable: profit

b. Predictors: (Constant), entrepreneurial viability & promotions and Marketing strategy

From the significance value, the measures - of entrepreneurial awareness measures (entrepreneurial viability & promotions and marketing strategy) are indeed different from each other and they affect the profit of women micro businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

Table 4.59 presents the analysis of variance of the study on entrepreneurial awareness measures (entrepreneurial viability & promotions and marketing strategy) and change in net-worth. The results reveal that a significant relationship exists between entrepreneurial viability & promotions and marketing strategy and change in net-worth of women micro businesses ( $F = 126.249$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.59: Entrepreneurial awareness ANOVA – Net worth Results**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	31.244	2	15.622	126.249	.000 <sup>b</sup>
1 Residual	37.864	315	.124		
Total	69.108	317			

a. Dependent Variable: Net-worth

b. Predictors: (Constant), entrepreneurial viability & promotions and Marketing strategy

From the significance value, the measures of entrepreneurial awareness measures (entrepreneurial viability & promotions and marketing strategy) are indeed different from each other and they affect the change in net-worth of women micro businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

**Table 4.60: Entrepreneurial awareness ANOVA – Sales turnover Results**

<b>Model</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Regression	32.104	2	15.622	116.249	.000 <sup>b</sup>
1 Residual	36.861	315	.104		
Total	68.965	317			

a. Dependent Variable: Sales turnover

b. Predictors: (Constant), entrepreneurial viability & promotions and Marketing strategy

From the significance value, the measures of entrepreneurial awareness measures (entrepreneurial viability & promotions and marketing strategy) are indeed different from each other and they affect the sales turnover of women micro businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

#### 4.8.9. Regression Results of entrepreneurial awareness and profit

To establish the influence of entrepreneurial awareness (that is, entrepreneurial viability & promotion and Marketing strategy) on the profit of women micro businesses in Rwanda, the following hypothesis was tested:

H<sub>01</sub>: There is no influence of entrepreneurial awareness on growth of women micro business (profit) in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial awareness measures (entrepreneurial viability & promotions and Marketing strategy) had any significant influence on the profit of women micro businesses in Rwanda.

**Table 4.61: Regression coefficients of entrepreneurial awareness and Profit**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.479	.206		7.179	.000
1 Entrepreneurial viability & promotion (X <sub>1</sub> )	.497	.053	.485	9.377	.000
Marketing strategy (X <sub>2</sub> )	.145	.038	.199	3.816	.000

a. Dependent Variable: Profit

Table 4.61 displays the regression coefficients results of the entrepreneurial awareness measures (entrepreneurial viability & promotion and Marketing strategy). entrepreneurial viability & promotion (supported by  $\beta = 0.485$ , p-value = 0.000) and Marketing strategy (supported by  $\beta = 0.199$ , p-value = 0.000) are statistically significant in explaining profit of women micro businesses in Rwanda.

The influence of = entrepreneurial awareness measures (entrepreneurial viability & promotion and Marketing strategy) is therefore significant indicating that the greater the entrepreneurial awareness by women micro business, the greater the profit generated from their businesses. Thus, higher levels of entrepreneurial awareness in women micro business are associated with increased growth of women business.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and p-value<0.05. The regression model is summarized by equation 4.7.

$$Y = 1.479 + 0.497X_1 + 0.145X_2 \dots \dots \dots \text{Equation 4.7}$$

Where,

Y = Profit,  $X_1$  – Entrepreneurial viability & promotion, and  $X_2$  – Marketing strategy

**4.8.10. Regression Results of Entrepreneurial awareness and net worth**

To establish the influence of entrepreneurial awareness measures (that is, entrepreneurial viability & promotion and Marketing strategy) on the net worth of women micro businesses, the following hypotheses were tested:

$H_{01}$ : There is no influence of entrepreneurial awareness on growth of women micro business (Net worth) in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial awareness measures (entrepreneurial viability & promotion and Marketing strategy) had

any significant influence on the change in net worth of women micro businesses in Rwanda.

Table 4.62 displays the regression coefficients results of the entrepreneurial awareness measures (entrepreneurial viability & promotion and Marketing strategy).

**Table 4.62: Regression coefficients of entrepreneurial awareness and net worth**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	1.769	.218		8.115	.000
1 Entrepreneurial viability & Promotion (X <sub>1</sub> )	.080	.056	.069	1.429	.046
Marketing strategy (X <sub>2</sub> )	.528	.040	.637	13.119	.000

a. Dependent Variable: net worth

Entrepreneurial viability and promotion (supported by  $\beta=0.069$ , p-value = 0.046) and marketing strategy (supported by  $\beta=0.637$ , p-value = 0.000) are statistically significant in explaining net worth of women micro businesses.

The influence of entrepreneurial awareness (entrepreneurial viability & promotion and marketing strategy) is therefore significant indicating that the greater the entrepreneurial awareness on growth of women micro businesses, the greater the change net worth generated from their businesses. Thus, higher levels of entrepreneurial awareness in women businesses are associated with increased net worth on growth of women micro businesses.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and  $p\text{-value} < 0.05$ . The regression model is summarized by equation 4.8.

$$Y = 1.769 + 0.080X_1 + 0.528X_2 \dots\dots\dots\text{Equation 4.8}$$

Where,

$Y$  = net worth,  $X_1$  – entrepreneurial viability & promotion, and  $X_2$  – Marketing strategy

#### **4.8.11. Regression Results of Entrepreneurial awareness and sales turnover**

To establish the influence of entrepreneurial awareness measures (that is, entrepreneurial viability & promotion and Marketing strategy) on the sales turnover of women micro businesses, the following hypotheses were tested:

$H_{01}$ : There is no influence of entrepreneurial awareness on growth of women micro business (sales turnover) in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial awareness measures (entrepreneurial viability & promotion and Marketing strategy) had any significant influence on the change in sales turnover of women micro businesses in Rwanda.

Table 4.63 displays the regression coefficients results of the entrepreneurial awareness measures (entrepreneurial viability & promotion and Marketing strategy).

**Table 4.63: Regression coefficients of entrepreneurial awareness and sales turnover**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
	(Constant)	1.667	.218		
1					
Entrepreneurial viability & Promotion (X <sub>1</sub> )	.083	.056	.064	1.429	.042
Marketing strategy (X <sub>2</sub> )	.421	.040	.642	13.119	.000

a. Dependent Variable: sales turnover

Entrepreneurial viability & promotion (supported by  $\beta=0.064$ , p-value = 0.042) and marketing strategy (supported by  $\beta=0.642$ , p-value = 0.000) are statistically significant in explaining sales turnover of women micro businesses.

The influence of entrepreneurial awareness (entrepreneurial viability & promotion and marketing strategy) is therefore significant indicating that the greater the entrepreneurial awareness on growth of women micro businesses, the higher the sales turnover generated from their businesses. Thus, higher levels of entrepreneurial awareness in women businesses are associated with increased sales turnover on growth of women micro businesses.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and p-value<0.05. The regression model is summarized by equation 4.9.

$$Y = 1.667 + 0.083X_1 + 0.421X_2 \dots\dots\dots\text{Equation 4.9}$$

Where,

Y = Sales turnover, X1 – entrepreneurial viability & promotion, and X – Marketing strategy

#### 4.9. Entrepreneurial Finance Results

The study sought to determine the influence of Entrepreneurial finance on women micro businesses in Rwanda. Entrepreneurial finance was operationalized by three measures namely; loan accessibility, cashflow and capital stability, where ten factors were assessed and tested for factor analysis.

##### 4.9.1. Sample Adequacy Results of Entrepreneurial Finance

The KMO and Bartlett's tests were used to test the correlation between Entrepreneurial finance variables. The KMO measure of sample adequacy results is 0.702 as shown in Table 4.64. This value indicates good partial correlation exhibited in the data for this study.

**Table 4.64: KMO and Bartlett's Test for Entrepreneurial Finance**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.702
	Approx. Chi-Square	1734.088
Bartlett's Test of Sphericity	Df	28
	Sig.	.000

Ali *et al.* (2016), pointed out that the KMO index ranges from 0 to 1, with 0.5 and above considered suitable for factor analysis. For the Bartlett's Test of Sphericity, p-value should be less than 0.05 for factor analysis to be suitable. The Bartlett's Test of Sphericity was used at significant level of  $p < 0.05$  to confirm sufficient correlation among the Entrepreneurial finance variables.

The Bartlett's Test of Sphericity result is 0.000 which shows high significance. Rusuli et al. (2013), explained that Measure of Sampling Adequacy should exceed 0.5 and for Bartlett's test of Sphericity the p-value should be less than 0.05.

#### 4.9.2. Entrepreneurial Finance Data Normality Test Results

Normality was used to test for significance and construction of confidence interval estimates of the parameters. The assumption is that the variables are normally distributed. In their study, Ali *et al.* (2016), showed that the assumptions and application of statistical tools as well as suitability of the tests are important aspects for statistical analysis. To check for normality, the study adopted Skewness and Kurtosis test and Auto correlation test.

##### a) Skewness and Kurtosis Results

Measures of skewness is based on mean and median while kurtosis measures the peaked-ness of the curve of the frequency distribution (Kothari & Garg, 2004). The results presented in Table 4.65 show that a skewness coefficient of 0.752 and kurtosis coefficient of 0.943. Based on these results, it was concluded that data was normally distributed since their statistic values were between -1 and +1.

**Table 4.65: Skewness and Kurtosis Test**

Variable	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Entrepreneurial Finance	317	.752	.138	.942	.277

## b) Durbin-Watson Test Results

A high degree of correlation among residuals of the regressions' data sets may produce inefficient results. As such, the presence of serial correlation among the OLS regressions is checked using Durbin and Watson's test statistic (Yupitun, 2008).

**Table 4.66: Durbin-Watson (Autocorrelation) Test**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>	<b>Durbin-Watson</b>
1	.475 <sup>a</sup>	.225	.217	.36820	1.932

Sole proprietorship b. Dependent Variable: Profit

Durbin-Watson statistic ranges in value from 0 to 4 with an ideal value of 2 indicating that errors are not correlated, although values from 1.75 to 2.25 may be considered acceptable. Some authors consider Durbin-Watson value between 1.5 and 2.5 as acceptable level indicating no presence of collinearity (Makori & Jagongo, 2013). Durbin-Watson value of 1.932 indicates that the model did not suffer from autocorrelation

### 4.9.3. Factor Analysis Results of Entrepreneurial Finance

Factor analysis was done on Entrepreneurial finance variables where constructs were subjected to variance tests through the principal component analysis test. The principal component analysis was thus used for interpretation of the large set of data.

**Table 4.67: Entrepreneurial Finance Total Variance Explained**

<b>Component</b>	<b>Initial Eigenvalues</b>			<b>Rotation Sums of Squared Loadings</b>		
	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>	<b>Total</b>	<b>% of Variance</b>	<b>Cumulative %</b>
1	4.063	50.813	50.813	2.718	33.973	33.973
2	1.631	20.503	71.219	2.220	27.752	61.725
3	1.017	12.954	84.274	1.804	22.553	84.191
4	.620	7.623	91.903			
5	.210	2.753	94.653			
6	.202	2.510	97.167			
7	.161	2.033	99.201			
8	.063	.798	100.000			

Extraction Method: Principal Component Analysis.

All the measures of entrepreneurial finance were subjected to factor analysis and the results showed that there were three factors extracted that were explaining entrepreneurial finance variables which had cumulative of 84.191% of the total variance. Factor one was the highest with 50.813%, factor two had 20.503%, while the third factor had 12.954 of the total variance. These three factors had their Eigen values greater than 1 and were considered to have the greatest influence on entrepreneurial finance as they explain about 84.191% of the total variance as shown in Table 4.67.

#### 4.9.4. Entrepreneurial Finance Rotation Component Matrix Results

Table 4.68 depicts the rotated component factor loadings for determinants of entrepreneurial finance measures. Component 1 was loan accessibility which had three constructs, Component 2 was Capital stability which had three constructs and Component 3 was Cash flows which had two constructs. Therefore, the component values indicate that they are highly interrelated with each other (rotated component analysis as illustrated in Appendix 2).

**Table 4.68: Entrepreneurial Finance Rotated Component Matrix**

Opinion Statement	OLCT	Component COF
1. Loan helped to boost business finance acquisition	.975	
2. Loan accessibility is very simple in commercial banks	.889	
3. The source of entrepreneurial finance	.912	
4. Challenge to cashflow of business establishment.		.923
5. The flow of capital stability in the business meet Operation requirement.		.936
6. Once requested for external finance support from Commercial banks.	.916	
7. Loan interest are fair to support businesses.	.854	
8. Challenges to acquire capital in the business		
9. Book keeping, and other accounting norms are performed	.908 .932	
10. Saving culture is practiced in women micro businesses	.846	

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Extraction Method: Principal Component Analysis

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 5 iterations.

KEY: LA = Loan accessibility, CF = Cashflows, CS = Capital Stability

All the variables of entrepreneurial finance have a factor loading of higher than 0.4.

#### 4.9.5. Descriptive Results of Entrepreneurial Finance

Entrepreneurial finance was assessed by three measures namely loan accessibility, cashflows and capital stability. Descriptive data shown on Table 4.69 presents the relevant results on a scale of 1 to 5 (where 5 = Strongly Agree and 1 = Strongly Disagree).

**Table 4.69: Entrepreneurial Finance Descriptive**

<b>Variable</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Cronbach's Alpha</b>
Loan accessibility	4.0267	.42957	.874
Cash flows	4.0728	.54230	.746
Capital stability	4.3140	.47471	.865

**KEY:** Scale 1= Strongly Disagree and 5 = Strongly Agree, Overall mean = 4.1374, Overall Cronbach's Alpha = 0.935

Cronbach's alpha was used to test the reliability of the proposed constructs (Ali *et al.*, 2016). The findings indicated that loan accessibility had a coefficient of 0.874, cash flows had a coefficient of 0.746, while capital stability had a coefficient of 0.865. entrepreneurial finance measures depicted Cronbach's alpha of 0.935 which is above the suggested value of 0.7 hence the study was reliable.

It was ascertained that business cashflow are corresponding to the business cash budgets as indicated by mean score of 4.01. Study findings were supported by Abioro (2013) that cash is the basic input required to keep the Sole proprietorship business running on a continuous basis and that firms should keep sufficient cash as cash shortage will disrupt business operations.

It was also noted that women micro business prefers to hold liquid cash for their daily business transactions and as such cash transactions are mostly preferred than credit terms to their customers. These findings were supported by Waweru and Ngugi (2014), where managers create value by reducing their inventories and the number of days their accounts are outstanding. The findings were also in accordance with findings of Akinyomi (2014) who point out the determination of the most favorable cash to hold and the need to have a trade-off between the opportunity cost of holding too much cash and the trading cost of holding too little. These findings were consistent with study by Hamza et al. (2013) and Akinyomi (2014) that the main objective of Entrepreneurial Finance is to determine the optimum level of cash required for business operations; while Duncan et al., (2015) point out that determination of optimum cash levels involves a combination of net worth and financial decisions, the determination of the amount of “buffer” money to hold is seen as net worth decision.

It was also noted that, loan accessibility to women micro business is a very big challenge and simply because interest rates are high coupled with collateral required by banks which are extremely high as well, as indicated by mean score of 4.07. These findings were supported by Ayeh (2001) who pointed out that, even though there exist many money lenders in the informal sector who are readily available to grant credit to the rural folk, the incidence of high interest rate on the loan facilities discourages the people within these areas to invest such funds in a better income generating ventures. The findings also are in line with Wan et al. (2017) who pointed out that, the high cost of transaction that normally comes along loan accessibility prevents most SMEs from applying for credit. This assertion has been confirmed Aryeetey et al. (2016) who said that information asymmetry could be problematic thus stopping SMEs from having the opportunity to access a loan. Lenders sometimes do not avail themselves to grant the facilities to smaller or lesser known clients or issue strict collateral obligations making it difficult for these applicants to have such facilities.

It was noted that women micro businesses saving culture is also still low as indicated by mean score of 4.03. These findings were supported by Browning and Lusardi (1996) who pointed out that there are several unresolved issues about savings. Many works emphasize that there is huge heterogeneity in household saving behavior, and much more than can be justified in traditional models of saving. For example, Diamond and Hausman (1984), and Lusardi (2011) all show that there are vast disparities in wealth holdings and that those disparities persist even when looking among households of similar age and economic status. Not only do wealth holdings vary widely across households, but also many families report low savings even close to retirement.

#### **4.9.6. Entrepreneurial Finance Correlations Results**

Correlation analysis was used to establish the strength and nature of the relationship between entrepreneurial finance measures (loan accessibility, cashflows and capital stability), and women micro business (in terms of profit, net worth and sales turnover) of women micro business in businesses in Rwanda.

Table 4.70 shows correlation matrix showing the correlation analysis with varied degree of interrelationship between loan accessibility, cashflows and capital stability, and women micro business (profit, net worth and sales turnover) of women business. The Pearson correlation coefficient was generated at 0.01 significance level (2-tailed). The output indicates a strong positive relationship between entrepreneurial finance measures (loan accessibility, cashflows and capital stability) and women micro business (profit, net worth and sales turnover) of women businesses in Rwanda,  $p = 0.000$ . The  $p$ -value  $< 0.01$ , significant at 0.01 level as the correlation matrix indicates.

**Table 4.70: Entrepreneurial Finance Correlation Results**

		LA	CF	CS	PR	CNW	ST
Loan accessibility (LA)	Pearson	1					
	Correlation Sig. (2-tailed)						
Cash flows (CF)	N	317					
	Pearson	.611**	1				
Capital stability (CS)	Correlation Sig. (2-tailed)	.000					
	N	317	317				
Profit (PR)	Pearson	.516**	.818**	1			
	Correlation Sig. (2-tailed)	.000	.000				
Change in Net Worth (CNW)	N	317	317	317			
	Pearson	.373**	.132*	.274**	1		
Sales turnover (ST)	Correlation Sig. (2-tailed)	.000	.021	.000			
	N	317	317	317	616		
	Pearson	.332**	.467**	.594**	.462**	1	
	Correlation Sig. (2-tailed)	.000	.000	.000	.000		
	Pearson	.373**	.132*	.274**	.462*		
	Correlation						
	Sig. (2-tailed)	.000	.000	.000			1
	N	317	317	317	317	317	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

KEY: LA = Laon accessibility, CF = Cashflows, CS = Capital stability, PR = Profit, CNW = Change in net worth ST= sales Turnover

There is a weak positive relationship between loan accessibility, cashflows and capital stability, and profit of women businesses (loan accessibility  $\rho = 0.373$ , cash flows,  $\rho = 0.132$  and capital stability,  $\rho = 0.274$ ). There is a positive relationship between loan accessibility, cashflows and capital stability, and net worth of women micro businesses (loan accessibility,  $\rho = 0.332$ , cashflows,  $\rho = 0.467$  and capital stability,  $\rho = 0.594$ ).

Therefore, the entrepreneurial finance measures (loan accessibility, cashflows and capital stability) are very important factors in women micro businesses (profit, net worth and sales turnover) of women businesses. This is supported by Abioro (2013) that cash is the most important current asset for the operation of any business and is the basic input required to keep the business running on a continuous basis.

#### **4.9.7. Entrepreneurial Finance Goodness-of-fit Model Results**

The results on Table 4.71 showed that entrepreneurial finance measures (loan accessibility, cashflows and capital stability) had explanatory power on profit of women micro businesses as it accounted for 22.5% of its variability (R Square = 0.225) as indicated in Model 1, hence the model is a good fit for the data. This implies that there is a weak positive relationship between entrepreneurial finance measures (loan accessibility, cashflows and capital stability) and profit of women micro businesses.

**Table 4.71: Entrepreneurial Finance Model Summary on Profit**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.475 <sup>a</sup>	.225	.218	.36810

a. Predictors: (Constant), Loan accessibility, Cashflows, capital stability

b. Variable: Profit

On Model 2, the explanatory power of entrepreneurial finance measures (loan accessibility, cashflows, and capital stability) did not change when women micro business (profit, net worth) was incorporated into the model (R Square = 0.225) hence the model is a good fit for the data. This implies that the entrepreneurial finance (loan accessibility, cashflows and capital stability) had not weakened the relationship with women micro business (profit, net worth) of women businesses.

**Table 4.72: Entrepreneurial Finance Model Summary on net worth**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.600 <sup>a</sup>	.361	.354	.38074
a. Predictors: (Constant), Loan accessibility, Cashflows, capital stability				
b. Dependent Variable: Net-worth				

The results on Table 4.72 showed that entrepreneurial finance measures (loan accessibility, cashflows and capital stability) had explanatory power on net worth of women businesses as it accounted for 36.1% of its variability (R Square = 0.361) as indicated in Model 1, hence the model is a good fit for the data. This implies that there is positive relationship between entrepreneurial finance measures (loan accessibility, cashflows and capital stability) and net worth on women businesses.

**Table 4.73: Entrepreneurial Finance Model Summary on Sales Turnover**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.620 <sup>a</sup>	.347	.344	.37024
a. Predictors: (Constant), Loan accessibility, Cashflows, capital stability				
b. Dependent Variable: Sales turnover				

The results on Table 4.73 showed that entrepreneurial finance measures (loan accessibility, cashflows and capital stability) had explanatory power on sales turnover of women businesses as it accounted for 34.71% of its variability (R Square = 0.347) as indicated in Model 1, hence the model is a good fit for the data. This implies that there is positive relationship between entrepreneurial finance measures (loan accessibility, cashflows and capital stability) and net worth on women businesses.

#### 4.9.8. Entrepreneurial Finance ANOVA Results

Table 4.74 presents the analysis of variance of the study on entrepreneurial finance measures (loan accessibility, cashflows and capital stability) and profit. The results reveal that a significant relationship exists between loan accessibility, cashflows, entrepreneurial finance and profit on women micro business. ( $F = 29.652$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.74: Entrepreneurial Finance ANOVA – Profit Results**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	12.061	6	4.020	29.652	.000 <sup>b</sup>
1 Residual	41.349	311	.136		
Total	53.410	317			

a. Dependent Variable: profit

b. Predictors: (Constant), Loan accessibility, Cashflows, capital stability

Table 4.75 presents the analysis of variance of the study on entrepreneurial finance measures (loan accessibility, cashflows and capital stability) and Net worth. The results reveal that a significant relationship exists between loan accessibility, cashflows and

capital stability and net worth of women micro businesses ( $F = 57.211$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.75: Entrepreneurial Finance ANOVA – Net worth**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	24.892	3	8.297	57.211	.000 <sup>b</sup>
1 Residual	44.216	314	.145		
Total	69.108	317			

a. Dependent Variable: Net worth

b. Predictors: (Constant), Loan accessibility, Cashflows, capital stability

Table 4.76 presents the analysis of variance of the study on entrepreneurial finance measures (loan accessibility, cashflows and capital stability) and sales turnover. The results reveal that a significant relationship exists between loan accessibility, cashflows, entrepreneurial finance and profit on women micro business. ( $F = 29.652$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.76: Entrepreneurial Finance ANOVA – Sales turnover Results**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11.067	3	4.023	28.652	.000 <sup>b</sup>
1 Residual	43.341	314	.126		
Total	53.410	317			

a. Dependent Variable: Sales turnover

b. Predictors: (Constant), Loan accessibility, Cashflows, capital stability

P value for both models is less than 0.05, thus indicating that the predictor variables explain the variation in the dependent variable which is loan accessibility, cashflows, and capital stability on profit, net worth and sales turnover of women businesses. From the significance value, the measures of entrepreneurial finance measures (loan accessibility, cashflows and capital stability) are indeed different from each other and they affect in profit, net worth and sales turnover of women businesses in a different manner. If the significance value of P was larger than 0.05 then the independent variables would not explain the variation in the dependent variable (Lakew & Rao, 2009).

#### **4.9.9. Regression Results of Entrepreneurial Finance and Profit**

To establish the influence of entrepreneurial finance measures (that is, loan accessibility, cashflows and capital stability) on the profit of women businesses in Rwanda, the following hypothesis was tested:

$H_{01}$ : There is no influence of entrepreneurial finance on growth of women micro business in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial finance measures (loan accessibility, cashflows and capital stability) had any significant influence on the profit of women businesses in Rwanda.

**Table 4.77: Regression Coefficients of Entrepreneurial Finance and profit**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.286	.221		10.348	.000
1 Loan accessibility (X <sub>1</sub> )	.437	.063	.454	6.968	.000
Cashflows (X <sub>2</sub> )	.358	.064	.525	5.609	.000
Capital stability (X <sub>3</sub> )	.372	.072	.454	5.153	.000

a. Dependent Variable: Profit

Table 4.77 displays the regression coefficients results of the entrepreneurial finance measures (loan accessibility, cashflows and capital stability). Loan accessibility (supported by  $\beta=0.454$ , p-value = 0.000), cashflows (supported by  $\beta=-0.525$ , p-value = 0.000), and capital stability (supported by  $\beta=0.454$ , p-value = 0.000) are statistically significant in explaining profit of women businesses in Rwanda.

The influence of entrepreneurial finance measures (loan accessibility, cashflows and capital stability) is therefore significant indicating that increased levels of entrepreneurial finance by women micro businesses, increases the profit generated from their businesses. Thus, higher levels of entrepreneurial finance in micro women businesses are associated with increased net worth of women businesses.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and p-value<0.05. The regression model is summarized by equation 4.10.

$$Y = 2.286 + 0.437X_1 + 0.358X_2 + 0.372X_3 \dots \dots \dots \text{Equation 4.10}$$

Where,

$Y = \text{Profit}$ ,  $X_1 = \text{loan accessibility}$ ,  $X_2 = \text{Cashflows}$  and  $X_3 = \text{capital stability}$

#### 4.9.10. Regression Results of Entrepreneurial Finance and net worth

To establish the influence of entrepreneurial finance measures (loan accessibility, cashflows and capital stability) on the net worth of women businesses in Rwanda, the following hypothesis was tested:

$H_{01}$ : There is no influence of Entrepreneurial finance (loan accessibility, cashflows and capital stability) on growth of women micro business (net worth) in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial finance measures (loan accessibility, cashflows and capital stability) had any significant influence on the net worth of growth of women businesses in Rwanda.

**Table 4.78: Regression Coefficients of Entrepreneurial Finance and net worth**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.050	.228		8.991	.000
1 Loan accessibility ( $X_1$ )	.026	.065	.023	.398	.000
Cashflows ( $X_2$ )	.070	.066	.091	1.061	.000
Capita stability ( $X_3$ )	.609	.074	.660	8.230	.000

a. Dependent Variable: Net worth

Table 4.78 displays the regression coefficients results of the entrepreneurial finance measures (loan accessibility, cashflows and capital stability). Loan accessibility (supported by  $\beta = 0.023$ , p-value = 0.000), cashflows (supported by  $\beta = 0.091$ , p-value = 0.000), and capital stability (supported by  $\beta = 0.660$ , p-value = 0.000) are statistically significant in explaining net worth in women micro businesses in Rwanda.

This is line with (Mucheru, Shukla, & Kibachia, 2017) findings prudent measures on liquidity management especially on liquidity ratios and cash flow forecast. The influence of entrepreneurial finance measures (loan accessibility, cashflows and capital stability) is therefore significant indicating that increased levels of entrepreneurial finance by women businesses, increases the net worth in the businesses. Thus, higher levels of entrepreneurial finance in women businesses are associated with increased net worth in women micro businesses.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and p-value < 0.05. The regression model is summarized by equation 4.11.

$$Y = 2.050 + 0.026X_1 - 0.070X_2 + 0.609X_3 \dots\dots\dots\text{Equation 4.11}$$

Where,

Y = Net worth, X<sub>1</sub> – loan accessibility, X<sub>2</sub> – Cashflows and X<sub>3</sub> – capital stability

#### **4.9.11. Regression Results of Entrepreneurial Finance and Sales turnover**

To establish the influence of entrepreneurial finance measures (that is, loan accessibility, cashflows and capital stability) on the sales turnover of women businesses in Rwanda, the following hypothesis was tested:

H<sub>01</sub>: There is no influence of entrepreneurial finance on growth of women micro business (Sales turnover) in Rwanda.

Regression analysis was conducted to empirically determine whether entrepreneurial finance measures (loan accessibility, cashflows and capital stability) had any significant influence on the sales turnover of women businesses in Rwanda.

**Table 4.79: Regression coefficients of entrepreneurial finance and sales turnover**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.187	.221		10.348	.000
Loan accessibility (X <sub>1</sub> )	.331	.063	.457	6.968	.000
Cashflows (X <sub>2</sub> )	.251	.064	.520	5.609	.000
Capital stability (X <sub>3</sub> )	.302	.072	.457	5.153	.000

a. Dependent Variable: Sales turnover

Table 4.79 displays the regression coefficients results of the entrepreneurial finance measures (loan accessibility, cashflows and capital stability). Loan accessibility (supported by  $\beta=0.457$ , p-value = 0.000), cashflows (supported by  $\beta= 0.520$ , p-value = 0.000), and capital stability (supported by  $\beta=0.457$ , p-value = 0.000) are statistically significant in explaining sales turnover of women businesses in Rwanda.

The influence of entrepreneurial finance measures (loan accessibility, cashflows and capital stability) is therefore significant indicating that increased levels of entrepreneurial finance by women micro businesses, increases the sales turnover generated from their businesses. Thus, higher levels of entrepreneurial finance in micro women businesses are associated with increased sales turnover of women businesses.

Therefore, the null hypothesis is rejected since  $\beta \neq 0$  and  $p\text{-value} < 0.05$ . The regression model is summarized by equation 4.12.

$$Y = 2.187 + 0.331X_1 + 0.251X_2 + 0.302X_3 \dots \dots \dots \text{Equation 4.12}$$

Where,

Y = sales turnover,  $X_1$  – loan accessibility,  $X_2$ – Cashflows and  $X_3$  –capital stability

#### 4.10.1. Overall Goodness-of-fit Model Results

The results on Table 4.81 showed that measures of innovation, entrepreneurial finance, entrepreneurial training and entrepreneurial awareness had explanatory power on profit of women micro businesses as it accounted for 55.3% of its variability (R Square = 0.553) as indicated in Model 1, hence the model is a good fit for the data. This implies a strong positive relationship between dependent variable and independent.

**Table 4.80: Overall Model Summary on profit**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.743 <sup>a</sup>	.553	.539	.28269

a. Predictors: (Constant), Creativity strategy and idea management loan accessibility, cashflows and capital stability, entrepreneurial competitive, customer relationship strategy and Business skill management, entrepreneurial viability & promotions and Marketing strategy.

b. Variable: Profit

The results on Table 4.82 showed that measures of innovation, entrepreneurial finance, entrepreneurial training and entrepreneurial awareness had explanatory power on change in net-worth of women businesses as it accounted for 59.7% of its variability (R Square =0.597). This implies a strong positive relationship between entrepreneurial dimension and micro business (change in net-worth) of women micro businesses.

**Table 4.81: Overall Model Summary on Change in Net-worth**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.773 <sup>a</sup>	.597	.585	.30527

a. Creativity strategy and idea management loan accessibility, cashflows and capital stability, entrepreneurial competitive, customer relationship strategy and Business skill management, entrepreneurial viability & promotions and Marketing strategy.

b. Variable: Change in Net-worth

**Table 4.82: Overall Model Summary on Sales turnover**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>
1	.763 <sup>a</sup>	.587	.583	.20127

a. Creativity strategy and idea management loan accessibility, cashflows and capital stability, entrepreneurial competitive, customer relationship strategy and Business skill management, entrepreneurial viability & promotions and Marketing strategy.

b. Variable: Sales turnover

The results on Table 4.83 showed that measures of innovation, entrepreneurial finance, entrepreneurial training and entrepreneurial awareness had explanatory power on sales turnover of women businesses as it accounted for 58.7% of its variability (R Square =0.587). This implies a strong positive relationship between entrepreneurial dimension and micro business (sales turnover) of women micro businesses.

#### **4.10.2. Overall Analysis of Variance (ANOVA) Results**

Table 4.84 presents the overall analysis of variance of the study. The results reveal that significant relationship exists between entrepreneurial dimension (measures by innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness) and profit of women business ( $F = 41.040$ ,  $p = 0.000$ ) as indicated in Model 1.

**Table 4.83: Overall ANOVA Results – Profit**

<b>Mode</b>						
<b>1</b>		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
	Regression	29.517	9	3.280	41.040	.000 <sup>b</sup>
1	Residual	23.894	308	.080		
	Total	53.410	317			

a. Dependent Variable: Profit

b. Predictors: (Constant), Creativity strategy and idea management loan accessibility, cashflows and capital stability, entrepreneurial competitive, customer relationship strategy and Business skill management, entrepreneurial viability & promotions and Marketing strategy. From the significance value, the entrepreneurial dimensions (measures of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness) are indeed different from each other and they affect the profits of women micro businesses in a different manner. This implies that there is still a significant relationship that exists between entrepreneurial dimensions (measures of innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness), and profit of women micro businesses.

Thus, indicating that the predictor variables explain the variation in the dependent variables which is measures of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness on the profit of women micro businesses.

**Table 4.84: Overall ANOVA Results – Change in Net-worth**

<b>Model</b>		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	41.244	9	4.583	49.174	.000 <sup>b</sup>
	Residual	27.865	308	.093		
	Total	69.108	317			

a. Dependent Variable: Change in Net-worth

b. Predictors: (Constant), Creativity strategy and idea management loan accessibility, cashflows and capital stability, entrepreneurial competitive, customer relationship strategy and Business skill management, entrepreneurial viability & promotions and Marketing strategy.

From the significance value, the entrepreneurial dimensions (measures of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness) are indeed different from each other and they affect the change in net-worth of women businesses in a different manner. This implies that there is still a significant relationship that exists between entrepreneurial dimensions (measures of innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness), and change in net-worth of women micro businesses. Thus, indicating that the predictor variables explain the variation in the dependent variables which is measures of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness on the change in net-worth of women micro businesses.

**Table 4.85: Overall ANOVA Results – Sales turnover**

<b>Model</b>		<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
1	Regression	42.241	9	4.583	49.174	.000 <sup>b</sup>
	Residual	26.665	308	.093		
	Total	67.108	317			

a. Dependent Variable: Sales turnover

b. Predictors: (Constant), Creativity strategy and idea management loan accessibility, cashflows and capital stability, entrepreneurial competitive, customer relationship strategy and Business skill management, entrepreneurial viability & promotions and Marketing strategy.

From the significance value, the entrepreneurial dimensions (measures of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness) are indeed different from each other and they affect the sales turnover of women businesses in a different manner. This implies that there is still a significant relationship that exists between entrepreneurial dimensions (measures of innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness), and sales turnover of women micro businesses. Thus, indicating that the predictor variables explain the variation in the dependent variables which is measures of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness on sales turnover of women micro businesses.

#### **4.10.3. Overall Multiple Regression Results on Profit**

Multiple regression analysis was performed to assess the relationship between women micro business (in profit) of women businesses and the independent variables (measures

of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness.

Table 4.87 presents multiple regression models where the regression results of measures of innovation, entrepreneurial finance, entrepreneurial training, and entrepreneurial awareness on the women micro business (Profit) of women micro businesses with p-values less than 0.05 as indicated in Model 1.

**Table 4.86: Overall Regression Coefficients of profit**

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.	
	B	Std. Error	Beta		
(Constant)	.466	.214		2.176	.031
Creativity strategy (X <sub>1</sub> )	.181	.051	.213	3.549	.000
Idea management (X <sub>2</sub> )	.119	.058	.171	2.052	.040
Loan accessibility (X <sub>3</sub> )	.390	.135	.371	2.889	.004
Cash flow (X <sub>4</sub> )	.194	.196	.200	.991	.023
Capital stability (X <sub>5</sub> )	.226	.054	.220	4.185	.000
Entrepreneurial competitiveness (X <sub>6</sub> )	.055	.108	.076	.509	.009
Customer relations & business skill development (X <sub>7</sub> )	.174	.056	.179	3.107	.002
Entrepreneurial visibility & promotion (X <sub>8</sub> )	.159	.052	.235	3.057	.002
Marketing strategy (X <sub>9</sub> )	.071	.063	.087	1.127	.025

a. Dependent Variable: Profit

The regression model is summarized by equation 4.13.

$$Y = 0.466 + 0.181X_1 - 0.119X_2 + 0.390X_3 + 0.194X_4 + 0.226X_5 + 0.55X_6 + 0.174X_7 - 0.159X_8 + 0.71X_9 \dots \dots \dots \text{Equation 4.13}$$

Where,

Y = Profit, X<sub>1</sub> = Creativity strategy, X<sub>2</sub> = idea management, X<sub>3</sub> = loan accessibility, X<sub>4</sub> = cashflow, X<sub>5</sub> = capital stability, X<sub>6</sub> = entrepreneurial competitiveness, X<sub>7</sub> = customer relations & business skill development, X<sub>8</sub> = entrepreneurial visibility & promotion, X<sub>9</sub> = Market strategy

The influence of entrepreneurial dimensions (measures of innovation, Entrepreneurial Finance , entrepreneurial training, entrepreneurial awareness) is therefore significant indicating that increased levels of Creativity strategy and idea management loan accessibility, cashflows and capital stability, entrepreneurial competitive, customer relationship strategy and Business skill management, entrepreneurial viability & promotions and Marketing strategy, while decreased levels of access to information resulted in increased profit generated from micro business.

#### **4.10.4. Overall Multiple Regression Results on Change in Net-worth**

Multiple regression analysis was performed to assess the relationship between growth (change in net-worth) of women businesses and the independent variables (measures of innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness.

**Table 4.87: Overall Regression Coefficients of Change in net-worth**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.806	.231		3.489	.001
Creativity strategy					
(X <sub>1</sub> )	.027	.055	.028	.491	.022
Idea management					
(X <sub>2</sub> )	.134	.062	.170	2.162	.032
Loan accessibility (X <sub>3</sub> )					
Cashflow	.270	.146	.226	1.849	.045
1 (X <sub>4</sub> )	.130	.212	.117	.613	.040
Capital stability					
(X <sub>5</sub> )	.031	.058	.027	.534	.029
Entrepreneurial					
competitiveness (X <sub>6</sub> )	.321	.117	.387	2.744	.006
Customer relations &					
business skill development					
(X <sub>7</sub> )	.012	.060	.011	.199	.044
Entrepreneurial visibility &					
promotions (X <sub>8</sub> )	.054	.056	.070	.964	.038
Marketing strategy (X <sub>9</sub> )	.189	.068	.205	2.779	.006

a. Dependent Variable: Change in Net-worth

Table 4.88 presents multiple regression models where the regression results of measures of innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness had significant influence on the women micro business (change in net-worth) of women businesses with p-values less than 0.05.

The regression model is summarized by equation 4.14.

$$Y = 0.806 + 0.027X_1 + 0.134X_2 + 0.270X_3 + 0.130X_4 + 0.031X_5 + 0.321X_6 + 0.012X_7 - 0.054X_8 + 0.189X_9 \dots \dots \dots \text{Equation 4.14}$$

Where,

Y = Change in Net-worth, X<sub>1</sub> = Creativity strategy, X<sub>2</sub> = idea management, X<sub>3</sub> = loan accessibility, X<sub>4</sub> = cashflow, X<sub>5</sub> = capital stability, X<sub>6</sub> = entrepreneurial competitiveness, X<sub>7</sub> = customer relations & business skill development, X<sub>8</sub> = entrepreneurial visibility & promotion, X<sub>9</sub> = Market strategy

#### **4.10.5. Overall Multiple Regression Results on Sales turnover**

Multiple regression analysis was performed to assess the relationship between growth (sales turnover) of women businesses and the independent variables (measures of innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial awareness.

**Table 4.88: Overall Regression Coefficients of sales turnover**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.816	.221		3.489	.002
Creativity strategy					
(X <sub>1</sub> )	.037	.054	.028	.491	.032
Idea management					
(X <sub>2</sub> )	.124	.061	.170	2.162	.012
Loan accessibility (X <sub>3</sub> )					
Cashflow	.272	.142	.226	1.839	.047
1 (X <sub>4</sub> )	.139	.217	.117	.612	.010
Capital stability					
(X <sub>5</sub> )	.032	.058	.027	.434	.026
Entrepreneurial					
competitiveness (X <sub>6</sub> )	.327	.117	.377	2.744	.007
Customer relations &					
business skill development					
(X <sub>7</sub> )	.017	.060	.019	.197	.042
Entrepreneurial visibility &					
promotions (X <sub>8</sub> )	.056	.056	.070	.964	.032
Marketing strategy (X <sub>9</sub> )	.149	.066	.203	3.769	.003

a. Dependent Variable: Sales turnover

Table 4.89 presents multiple regression models where the regression results of measures of innovation, entrepreneurial finance, entrepreneurial training, entrepreneurial

awareness had significant influence on the women micro business (sales turnover) of women businesses with p-values less than 0.05.

The regression model is summarized by equation 4.15.

$$Y = 0.816 + 0.037X_1 + 0.124X_2 + 0.272X_3 + 0.139X_4 - 0.032X_5 + 0.327X_6 + 0.017X_7 + 0.056X_8 + 0.194X_9 \dots \dots \dots \text{Equation 4.15}$$

Where,

Y = Sales turnover, X<sub>1</sub> = Creativity strategy, X<sub>2</sub> = idea management, X<sub>3</sub> = loan accessibility, X<sub>4</sub> = cashflow, X<sub>5</sub> = capital stability, X<sub>6</sub> = entrepreneurial competitiveness, X<sub>7</sub> = customer relations & business skill development, X<sub>8</sub> = entrepreneurial visibility & promotion, X<sub>9</sub> = Market strategy

**Table 4.89: Summary of Research Hypotheses**

Null Hypothesis	Comments
1. There is no influence of innovation on growth of women micro business in Rwanda.	Rejected
2. There is no influence of entrepreneurial finance on growth of women micro business in Rwanda.	Rejected
3. There is no influence of entrepreneurial training on women micro business in Rwanda.	Rejected
4. There is no influence of entrepreneurial awareness on women micro business in Rwanda.	Rejected

The study was based on the assumption that entrepreneurial dimensions had no influence on the women micro business. The conceptual framework was used to guide the study and four relevant hypotheses were therefore set out and tested at 95 per cent confidence level (level of significance,  $\alpha = 0.05$ ). To test the hypotheses of the study, the p-value was used to test the significance of each independent variable to the dependent variable. If the p-value calculated was less than 0.05, the null hypothesis is rejected. Therefore, it is concluded that, there is statistically significant relationship between independent and dependent variable in influencing entrepreneurial dimensions on growth of women micro business in Rwanda.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1. Introduction**

This chapter summarizes the research findings and provides conclusion and recommendations in line with the topic of study that is to determine the influence of entrepreneurial dimensions on growth of women micro businesses in Rwanda.

#### **5.2. Summary**

The overall general objective of this study was to determine the influence of entrepreneurial dimensions on growth of women micro businesses in Rwanda. In particular, the specific objectives of the study were; to identify the influence of innovation on growth of women micro business in Rwanda, to examine entrepreneurial finance on growth of women micro businesses in Rwanda, to identify the influence of entrepreneurial training on growth of women micro businesses in Rwanda and finally, establish the effects of entrepreneurial awareness on growth of women micro businesses in Rwanda. The study collected and presented data in chapter four with specific attention given to the objectives and research questions of the study which were used as units of analysis. Theoretical and empirical literature were used to compare the results of the study with previous studies. The study targeted registered women micro businesses operating with in Bugesera District, Rwanda. Target population of 8,629 licensed and registered businesses as at 01<sup>st</sup> January 2017 was used to derive the sample size of 324 using Slovin's formula. A pilot study was conducted to test reliability of the research instrument using a sample of thirty businesses were selected randomly. In line with the findings presented and discussed in the previous chapter, the study derived the following findings.

### **5.2.1. Identify the influence of innovation on growth of women micro business in Rwanda**

The first objective of the study sought to identify the influence of innovation on growth of women micro business. The indicators of innovation were creativity strategy, idea management and risk management while measures of growth were profit, net worth and sales turnover. Descriptive statistical methods were used to arrive at the results. Creativity strategy and ideal management greatly influenced profits and net worth of growth of women micro businesses in Rwanda. Inferential statistical methods also gave findings and deductions. Findings on correlation and regression analysis indicated that there was a significant and strong positive association between measures of innovation (creativity and ideal management) and profit, net worth and sales turnover of women micro businesses. The innovation indicators were found to be statistically significant in explaining the influence of innovation on growth of women micro businesses in Rwanda.

### **5.2.2. Examine entrepreneurial finance on growth of women micro businesses in Rwanda**

The second objective of the study sought to examine entrepreneurial finance on growth of women micro businesses. The indicators of entrepreneurial finance were loan accessibility and capital stability and cashflow. Descriptive statistical methods were used to arrive at the results. Loan accessibility, cashflow and capital stability greatly influenced profits and net worth of women micro businesses. Inferential statistical methods also gave findings and deductions. Findings on correlation and regression analysis indicated that there was a significant and strong positive association between entrepreneurial finance measures (Loan accessibility and capital stability and cashflow) and profits and net worth of women micro businesses. The entrepreneurial finance indicators were found to be statistically significant in explaining the influence of entrepreneurial finance on the women micro business in Rwanda.

### **5.2.3. Identify the influence of entrepreneurial training on growth of women micro business in Rwanda**

The third objective of the study sought to identify the influence of entrepreneurial training on growth of women micro businesses. The indicators of entrepreneurial training were entrepreneurial competitiveness, customer relations and business skill development. Descriptive statistical methods were used to arrive at the results. entrepreneurial competitiveness, customer relations and business skill development greatly influenced profit and change in net-worth of women micro businesses in Rwanda. Inferential statistical methods also gave findings and deductions. Findings on correlation and regression analysis indicated that there was a significant and strong positive association between entrepreneurial training measures (entrepreneurial competitiveness, customer relations and business skill development) and profit and change in net-worth of women micro businesses. The entrepreneurial training indicators were found to be statistically significant in explaining the influence of entrepreneurial training on growth of women micro businesses in Rwanda.

### **5.2.4. Establish the effects of entrepreneurial awareness on growth of women micro business in Rwanda**

The fourth objective of the study sought to establish the effects of entrepreneurial awareness on women micro businesses. The indicators of entrepreneurial awareness were marketing strategy, entrepreneurial viability and promotions and publicity. Descriptive statistical methods were used to arrive at the results. marketing strategy, entrepreneurial viability and promotions and publicity greatly affected profit and change in net-worth of women micro businesses. Inferential statistical methods also gave findings and deductions. Findings on correlation and regression analysis indicated that there was a significantly affect between entrepreneurial awareness and women micro business. The entrepreneurial awareness indicators were found to be statistically

significant in explaining the effects of entrepreneurial awareness on the women micro businesses.

### **5.3. Conclusion**

The conclusion was based on the objectives of the study, that is, to determine the influence of entrepreneurial dimensions on women micro businesses in Rwanda, logical conclusion were drawn based on the scientist research findings.

#### **5.3.1 Innovation and growth of women micro Businesses**

It can be concluded that innovation measures (creativity strategy and ideal management) had significant and positive influence on growth women micro businesses (profit, net worth and sales turnover) of women businesses in Rwanda. The regression results reveal statistically significant positive linear relationship between creativity strategy and idea management and profit, net worth and sales turnover of women micro businesses in Rwanda. This was attributed by members' prior and existing knowledge on entrepreneurial skills, their ability to undertake innovative ideas and interpret them, and continuously operationalize them to make better innovative decision. It can therefore be concluded that innovation greatly influences the women micro businesses in Rwanda.

#### **5.3.2. Entrepreneurial Finance and growth of women micro Businesses**

It can be concluded that Entrepreneurial finance measures (loan accessibility, cashflows, and capital stability) had a significant and positive influence of on growth of women micro businesses (profit, net worth and sales turnover) of women micro businesses. The regression results reveal statistically significant positive linear relationship between entrepreneurial finance measures (loan accessibility, cashflows, and capital stability) and profit, net worth and sales turnover of growth. This was as a result of improved loan accessibility that was translated into improvement of cashflow levels and management and stabilization capital for financial emergencies. It can therefore be concluded that

entrepreneurial finance greatly influences growth of women micro businesses in Rwanda.

### **5.3.3. Entrepreneurial training and growth of women micro Business in Rwanda**

It can be concluded that entrepreneurial training measures (entrepreneurial competitiveness and Business skill management and customer relations) has a significant and positive influence on women micro business (profit, net worth and sales turnover) growth of women micro business in Rwanda. The regression results reveal statistically significant positive linear relationship between entrepreneurial training (entrepreneurial competitiveness and Business skill management and customer relations) and profit, net worth and sales turnover to women micro business in Rwanda. This was attributed to competitive environment and high business skills that has established strong relations with customers and maintaining adequate levels of knowledge throughout business operations. It can therefore be concluded that entrepreneurial training greatly influences growth of women micro businesses in Rwanda.

### **5.3.4. Entrepreneurial awareness and growth of women micro Business in Rwanda**

It can be concluded that entrepreneurial awareness measures (marketing strategy and entrepreneurial viability and promotions) had a significant and positive influence on growth of women micro business (profit, net worth and sales turnover) of women business in Rwanda. The regression results reveal statistically significant positive linear relationship between entrepreneurial awareness (marketing strategy and entrepreneurial viability and promotions) and profit, net worth and sales turnover on women micro business in Rwanda. This was as a result of proper marketing strategy and entrepreneurial viability, and vigor's promos that women micro businesses has put in place. It can therefore be concluded that entrepreneurial awareness greatly influences growth of women micro businesses in Rwanda

## **5.4. Recommendations**

The recommendations were based on the objectives of the study, that is, to determine the influence of entrepreneurial dimensions on women micro businesses in Rwanda.

### **5.4.1. Innovation and growth of women micro Businesses**

It was concluded that innovation measures (creativity strategy and ideal management) greatly influenced growth of women micro business (in terms of profit, net worth and sales turnover) on women micro businesses in Rwanda. These findings on women businesses extended the frontiers of knowledge by generating valuable insights for both academic and enterprise action. Therefore, the results of this study are of interest to owners and managers of women businesses. The study showed that innovation was key to making better innovative decisions which were identified by managers' creativity strategy and their ability to new ideas which can be acquired through training. Therefore, it can be recommended that managers should be able to enhance innovative practices through embracing creativity that is relevant for them to make informed innovative decisions relating to their businesses.

### **5.4.2. Entrepreneurial finance and growth of women micro Businesses**

It was concluded that Entrepreneurial finance (loan accessibility, cashflows, and capital stability) greatly influenced growth of women micro business (profit, net worth) of women businesses in Rwanda. This was as a result of sales made through cash transactions, management of credits in terms of prompt payments to suppliers and maintaining enough levels of cash (cashflow) for financial emergencies. It can therefore be recommended that management and business owners should put stringent policies on cash flow management. It is also recommended that women micro businesses should refrain from holding too much cash for emergencies which in long run drain business cash flow as misappropriation of funds. Proper cash management will result in

maintaining optimum levels of cash purely for business purposes. This will eventually lead to continuous growth of such businesses.

#### **5.4.3. Entrepreneurial training and growth of women micro Businesses**

It was concluded that entrepreneurial training measures (entrepreneurial competitiveness and Business skill management and customer relations) greatly influenced growth of women micro businesses (in terms of profit, net worth and sales turnover) of women businesses in Rwanda. For any business, women or non-women, training is important aspect to bridge the knowledge gap as well as to increase know-how of business. This study therefore, recommends business managers to be able to understand training aspects and adhere to the requirements placed by business when choosing training for the organization and be able to be competitive in market and do proper planning and budgeting for their trainings. Business training is key especially in achieving the business objective also skill development that increase the firms' value. It was noted from the study that entrepreneurial training was mostly done at less than 50% of the business training schedule. This is recommended in order to avoid poor quality and maintain control of the market.

#### **5.4.4. Entrepreneurial awareness and growth of women micro Business**

It was concluded that entrepreneurial awareness measures (marketing strategy and entrepreneurial viability and promotions) greatly influenced growth of women micro business (in terms of profit, net worth and sales turnover) on women micro businesses in Rwanda. This study recommends for proper marketing strategy and entrepreneurial viability and promotions which will stimulate awareness hence growth of women businesses. It is also recommended that business managers should allocate budget for awareness so that community is well informed and aware of the products and service of the business hence gaining market share in the region.

## **5.5. Policy Recommendations**

Growth of women micro businesses, although passed on from generation to generation, they have unique features but operate just like any other business in the economy with financial goals (that is, maximizing profits or increasing value for the owners). This study would assist policy makers to separate “culture” from business in terms of proper management of the business and to adhere to entrepreneurial dimensions practices required for running businesses. That will, to a great extent, lead to less women business failures in future as has been evident in the study area (Bugesera District) and other parts of Rwanda.

## **5.6. Study’s Contribution to Entrepreneurial Theory and Existing Knowledge**

There is currently no framework or a theory of the women micro business to help researchers design adequate empirical research and to properly interpret the results of their investigations. Until recently, this developing academic field lacked depth in terms of theoretical foundations of the “Theory of the micro women business”. The findings of this study contribute to the existing body of knowledge but inclined towards entrepreneurial dimensions (innovation, Entrepreneurial Finance, entrepreneurial training and entrepreneurial awareness) influencing growth of women micro business (in profit and change in net-worth) of women micro business. Few studies had been done on women micro businesses in Rwanda and African context generally.

Most of the studies, especially in Asia and the East, have been focusing more on gender balance rather than micro women business aspects. Thus, the findings of this study contribute in filling this knowledge gap by focusing on the entrepreneurial dimensions on women micro business and their growth. Key issues discussed and revealed in this study, under the wider entrepreneurial dimensions is innovation (creativity strategy, idea management) entrepreneurial finance (loan accessibility, cashflow and capital stability), entrepreneurial training (entrepreneurial competitiveness, customer relation and business

skill management) and entrepreneurial awareness (market strategy and entrepreneurial viability and promotion).

Therefore, the study builds further on the recent and existing empirical information in the field of entrepreneurial dimensions studies in explaining how women micro business influence growth of women micro business.

### **5.7. Areas for Further Research**

This research provides empirical evidence on the influence of entrepreneurial dimensions on growth of women micro businesses in Rwanda. This research, however, concentrated on only four aspects of entrepreneurial dimensions namely; innovation, entrepreneurial finance, entrepreneurial training and entrepreneurial awareness. There are other aspects of entrepreneurial dimensions which can only be explored through further research, such as entrepreneurial cash management, Entrepreneurial debt management, Entrepreneurial decision management, etc. on growth of women micro businesses.

A comparative research may also be done on the growth of women micro business in relation to male counterparts. This study focused only on growth of women micro business in Bugesera district, more research should also be carried out along this topic specially to extend the research on perspectives of entrepreneurial dimension related aspects and to cover more geographical locations to other countries especially in Africa.

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## **APPENDICES**

### **Appendix 1: Questionnaire**

**Respected Sir/Madam**

Dear Respondent,

This questionnaire is aimed at collecting data for academic research purposes on “**INFLUENCE OF ENTREPRENEURIAL DIMENSIONS ON GROWTH OF WOMEN MICRO BUSINESS IN RWANDA**”. The study is in partial fulfilment of the requirements for the award of a PhD degree in Entrepreneurship at Jomo Kenyatta University of Agriculture and Technology (JKUAT).

Please be assured that any information collected through this questionnaire will be treated with utmost confidence and will be used for research purposes only. Thank you in advance for your time and cooperation.

Yours faithfully,

**John KAMANZI**

**Student, PhD, Business Administration**

**Registration Number *HDE413-C010-0890/2014***

## SECTION A. GENERAL INFORMATION

### Demographic information

1. What is your position in Business

2. What is your age?

Below 20 years

21-30

31-40

41-50

Above 50years

3. What is your highest level of Education?

Primary

Secondary

Diploma

Bachelor's degree

Masters

Doctorate

Others (Please specify) .....

4. What is the type of Business?

- Private Limited Liability Company
- Private Limited Liability Company
- Private Partnership Company
- General Partnership
- Sole proprietorship
- Other (please specify)

5. What is the Age of Business

- Below one year
- One year
- Two years
- Three years
- Above three years

6. What is your business sales per month (RWF)?

- Below 1,000,000
- Between 1,000,001-1,500,000
- Between 1,500,001- 2,000,000

Between 2,000,000- 2,500,000

Between 2,500,001-3,000,000

Above 3,000,001

7. Please tick according to the code provided below for the variables below:

Strongly Agree 5.....Agree 4.....Not sure 3.....Disagree 2.....Strongly Disagree 1.....

### SECTION B

<b>INNOVATION</b>		1	2	3	4	5
1	Innovative initiatives in the enterprise are supported and developed					
2	Creativity and persuasiveness are supported in the business enterprise					
3	Innovation lead to growth of micro business					
4	Business motivate members for their innovations and persuasiveness					
5	Risk management controls are in place to mitigate on risk					
6	At every stage of innovation business involve all the workers					
7	Innovation influences entrepreneurial dimensions in women micro					
8	businesses					
9	New idea management is taken very important in the enterprises.					
<b>ENTREPRENEURIAL TRAINING</b>						
1	Entrepreneurial training is taken as priority in business					
2	A person to be competitive require trainings					

3	Entrepreneurial training impact on entrepreneurial dimensions on					
4	growth of women micro business					
5	Focus business skills development to the members					
6	Training on customer behaviors and relations between business					
7	and the customer					
8	Government has improved training to equip women with skills					
9	and competences for entrepreneurial development.					
10	Structured trainings are often used in the training guidelines.					
11	Training challenges act as setback to business development.					
<b>ENTREPRENEURIAL AWARENESS</b>						
1	Business has marketing strategic plan.					
2	The visibility of business in the area					
3	The extent to the established relations with customer					
4	Women micro business participate in viability assessment					
5	The effect of entrepreneurial awareness on women micro business					
6	Promotion and publicity activities are carried out in the business					
7	Awareness challenges are issues for women business profitability.					
8	Awareness strategies applied by women business in the community					
<b>ENTREPRENEURIAL FINANCE</b>						
1	Loans has helped to boost business capital acquisition					
2	Loan accessibility is very simple in commercial banks					

3	Personal savings cannot be only the source of entrepreneurial capital acquisition.					
4	challenge to cashflow for a business establishment					
5	The flow of capital stability in the enterprise meet operation requirements					
6	At one point in time a need to raise for external financial support from commercial banks					
7	Loan interests are fair to support enterprise business					
8	Challenges to acquire capital in the enterprise					
9	Bookkeeping and other accounting norms are performed in enterprise					
10	Saving culture is practiced in women micro businesses					
<b>GROWTH OF WOMEN MICRO BUSINESS</b>						
1	Profitability levels increased in business					
2	Profit gained is reinvested in the business					
3	Profit generating activities increased as per the management.					
4	Profit has increased assets					
5	The net worth levels of women micro business are affected by entrepreneurial dimesons					
6	Expansion of business in other branches					
7	Increased in market share					
8	Liability controls in business					
9	Recording sales					
10	Sales turnover performance					
11	Sales turnover increased entrepreneurial operations					
12	Sales turnover impacts growth					

**Thank you so much!**

## Appendix 2: rotated component

Opinion Statement	Component		
	ST	PF	NW
1. Profitability levels increased in the business		.875	
2. Profit gained is re-invested in the business		.847	
3. Profit generating activities increased as per the management.		.897	
4. Profit has increased assets		.784	
5. The net worth levels of women micro business are affected by Entrepreneurial dimensions.			.830
6. Expansion of business in other brunches			.883
7. Increased in market share			.904
8. Liability controls in business			.680
9. Recording sales	.952		
10. Sales turnover performance	.878		
11. Sales turnover increased entrepreneurial operations	.887		

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Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: PF = Profit, NW = Net worth = Sales turnover

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Opinion Statement	Component	
	CS	IM
1. Innovative initiative in the business are supported and developed		.913
2. Creativity and persuasiveness are supported in the business		.910
3. Innovation lead to growth of business		.916
		.90
4. Business motivate members for their innovation and persuasiveness		0
		.93
5. Risk management controls are in place to mitigate on risk		8
6. At every stage of innovation business involves all the workers	.916	
Innovation influences entrepreneurial dimensions in women micro		
7. business	.930	
8. New idea management is taken very important in the business	.932	

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Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: CS = Creativity Strategy, IM = Idea management

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Opinion Statement	Component	
	EC	BSD
1. Entrepreneurial training is taken as priority in business	.893	
2. A person to competitive require trainings	.894	
3. Entrepreneurial training impact on entrepreneurial dimensions	.719	
4. On growth of women micro business Focus business skills development to the members	.774	
5. Training on customer behaviors and relations between Business and customer		.893
6. Government has improved training to equip women with skills		.894
7. And competences for entrepreneurial development Structure training are often used in training guidelines		.911
8. Training challenges act as setback to business development.		.891

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: EC = Entrepreneurial competitiveness, BSD = Business skill management & customer relations

Opinion Statement	Component	
	EVP	MS
1. Business has marketing strategic plan		.929
2. The visibility of business in the area		.905
3. The extent to the established relations with customers		.948
4. Women micro business participate in visibility assessment		.810
5. The effect of entrepreneurial awareness on women Business	.874	
6. Promotion and publicity activities are carried out in business	.946	

7. Awareness challenges are issues for women business	.943
Profitability	
8. Awareness strategy applied by women business in the community	.885

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Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 3 iterations.

KEY: AIF = Entrepreneurial viability & promotion, MS = Marketing strategy

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Opinion Statement	Component	
	OLCT	COF
1. Loan helped to boost business finance acquisition	.975	
2. Loan accessibility is very simple in commercial banks	.889	
3. The source of entrepreneurial capital acquisition	.912	
4. Challenge to cashflow of business establishment.		.923
5. The flow of capital stability in the business meet		.936
Operation requirement.		
6. Once requested for external finance support from	.916	
Commercial banks.		
7. Loan interest are fair to support businesses.	.854	
8. Challenges to acquire capital in the business	.908	
9. Book keeping, and other accounting norms are performed	.932	
10. Saving culture is practiced in women micro businesses	.846	

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Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Rotation converged in 5 iterations.

KEY: LA = Loan accessibility, CF = Cashflows, CS = Capital Stability

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