

**East Africa Collaborative Ph.D. Program  
in Economics and Management**

**The Relationship between Entrepreneurial  
Orientation, Government Policy and SME  
Performance: The Case of Small and  
Medium Enterprises in Rwanda**

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## **Preface**

*East Africa Research Papers in Business, Entrepreneurship and Management* is a series linked to the collaborative PhD program in Economics and Management among East Africa national universities. The program was initiated and is coordinated by the Jönköping International Business School (JIBS) at Jönköping University, Sweden, with the objective of increasing local capacity in teaching, supervision, research and management of PhD programs at the participating universities. The program is financed by the Swedish International Development Cooperation Agency (SIDA).

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Research disseminated through this series may include views on economic policy and development, but the series will not take any institutional policy positions. Thus, any opinions expressed in this series will be those of the author(s) and not necessarily the Research Papers Series.

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# **The Relationship between Entrepreneurial Orientation, Government Policy and SME Performance: The Case of Small and Medium Enterprises in Rwanda**

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## **ABSTRACT**

Given the ever-growing importance of small and medium enterprises (SMEs) in developing nations like Rwanda this study examines the relationship between entrepreneurial orientation, government policy and the SMEs' performance. The research study was conducted in Rwanda using a cross-sectional research design. The targeted sample was 226 firms and the collected data was entered and analyzed using the SPSS software package. The study used the Pearson correlation coefficient and the regression model analysis to test the research hypothesis. The results show that entrepreneurial orientation is significantly and positively related to both SME performance and government policy. At the same time, government policy is also significantly and positively related to SME performance. These results were confirmed by the hierarchical regression model which showed that entrepreneurial orientation and government policy were both significant predictors of SMEs' performance. Based on its findings the study gives recommendations for SME staff members to improve their performance.

Keywords: Small and medium enterprises, entrepreneurial orientation, government policy.

JEL Classification Codes: K20; L25; L26.

## **1. Introduction**

There is no single definition for small and medium enterprises (SMEs) that is accepted universally. Different sectors of the economy have different interpretations of what defines SMEs. Further, different countries define SMEs differently. However, it is acceptable to use quantitative and qualitative criteria when defining SMEs (Gibson and Holmes, 2001). This notion is supported by scholars who agree that definitions of SMEs that are based on quantitative and qualitative factors consider the measure of the size such as gross assets, sales turnover, type of ownership and different sectors of the economy like manufacturing, wholesalers, retail, mining and textile industries. SMEs are important vehicles in poverty reduction and skill development (MINICOM, 2014-15). SMEs represent 99 per cent of all businesses in the European Commission (EC). The main factors that EC considers when defining SMEs are staff head count and either turnover or balance sheet details (Table 1).

Insert Table 1 about here

In Rwanda, SMEs include micro, small and medium enterprises. SMEs fall under various categories and they are defined with respect to the context in which they operate (MINICOM, 2010). The definitions used for SMEs in Rwanda are given in Table 2.

Insert Table 2 about here

The SME business sector is recognized as an integral component of economic development and a crucial element in efforts to lift countries out of poverty. SMEs have been a driver of development and many young people today, especially those who have just finished school and started working, resort to starting SMEs. The reason that they find this sector attractive is that it is not capital intensive (Acemoglu, 2001). The dynamic role of SMEs in developing countries as engines through which their growth objectives can be achieved despite their size, capital investments and their capacity to generate greater employment, have demonstrated their powerful propellant effect on rapid economic growth.

## **2. Theoretical Background**

Entrepreneurial orientation refers to strategy making processes that provide organizations with a basis for entrepreneurial decisions and actions (Wiklund and Shepherd, 2003). Many reviews and assessments of entrepreneurship research conclude that the development of a cumulative body of knowledge has been limited and slow because there is lack of agreement on many key issues regarding what constitutes entrepreneurial orientation (Shane and Venkataraman, 2000). This has been partly due to the fact that researchers have failed to build upon each other's results and the fact that measurement of key variables is typically weak. Notwithstanding this, entrepreneurial orientation has become a central concept in the domain of entrepreneurship that has received a substantial amount of theoretical and empirical attention (Covin et al., 2006). Therefore, it is essential that organizations understand the systems and processes that facilitate entrepreneurial behavior. The justification for this is that previous studies have indicated a probable non-significant link between social wellbeing and participation in the SME sector.

Even if these were not turbulent, fast-changing times, entrepreneurship would still be important for organizations seeking to survive and thrive and gain competitive advantages. The attributes of entrepreneurial orientation are product innovation, proactiveness and risk-taking behavior (Covin and Slevin, 1991; Miller, 1983; Wiklund and Shepherd, 2005).

Product innovation reflects a firm's propensity to engage in and support creativity and experimentation thereby leading to the creation of new products or the modification of existing ones to meet the demands of current or future markets (Lumpkin and Dess, 1996, 2005). Proactiveness is a forward-looking perspective characterized by the pursuit and anticipation of future wants and needs in the marketplace. By being proactive, firms capitalize on emerging opportunities and shape the evolving competitive environment. Risk taking characterizes entrepreneurial behavior in which both the cost of failure and the potential returns are high (Lumpkin and Dess, 1996, 2004).

Although Lumpkin and Dess (1996) have identified competitive aggressiveness and autonomy as additional components of the entrepreneurial orientation construct, we focus our attention on Miller's original conceptualization of entrepreneurial orientation. Lumpkin and Dess (1996: 146) argue that entrepreneurial orientation includes taking initiative(s) by anticipating and pursuing new (future) opportunities. Entrepreneurial orientation provides a system of practices and managerial styles that offer direction for the use of resources.

### **3. Entrepreneurial Orientation and SMEs' Performance**

Various studies examine the relationship between entrepreneurial orientation and SMEs' performance though the magnitude of the relationship varies across studies. While some studies have found that businesses that adopt strong entrepreneurial orientation perform much better than businesses that do not (Wiklund and Shepherd, 2003), others report lower correlations between entrepreneurial orientation and performance (Zahra and Garvis, 2000) or they have been unable to find a significant relationship between entrepreneurial orientation and performance. The conceptual arguments of previous research converge on the idea that businesses benefit by highlighting newness, responsiveness and a degree of boldness. An extensive discussion of the arguments can be found in Lumpkin and Dess (2005).

In an environment of rapid change and shortened product and business model lifecycles, future profit streams from existing operations are uncertain and businesses need to constantly seek out new opportunities. Therefore, businesses may benefit from adopting entrepreneurial orientation as a strategy for growth. Such businesses innovate frequently while taking risks in their product-market strategies (Miller and Friesen, 2002). Efforts to anticipate demand and aggressively position new products/services often result in strong performance (Ireland et al., 2003). Thus, conceptual arguments suggest that entrepreneurial orientation is bound to lead to better business performance.

Business performance is traditionally measured using objective measures like profitability, market share, returns on investment and sales and little attention is paid to subjective performance like psychological satisfaction and individual wellbeing. Although some

businesses may continue to exist, they may make losses or perform poorly which is reflected in continuous losses, drop in sales and short-term survival (Muzenda, 2014).

Thus, there are considerable variations in the relationship between entrepreneurial orientation and business performance. Using a correlation analysis we provide a point estimate of the relationship between entrepreneurial orientation and performance across previous studies and we ask the question whether the variation is high enough to warrant an empirical examination of moderators of the entrepreneurial orientation-performance relationship. It is against this background that the following research hypothesis is studied:

H<sub>1</sub> *There is a significant and positive relationship between entrepreneurial orientation and SME performance.*

It is envisioned that the findings of our study will be beneficial for the SME sector in understanding the nature of the relationship between these variables which will help SMEs' managements to steer their businesses to greater heights.

#### **4. Entrepreneurial Orientation and Government Policy**

On a related note, a few writers in the more developed nations have linked entrepreneurial orientation to government policy though this link has been given far less priority by researchers in developing nations like Rwanda.

Regardless of entrepreneurial orientation, SME managers are less sensitive to issues of government interest such as gender balance and evasion of taxes in developing nations with the result that the government is more likely to resist any policies that may benefit SMEs. Boeri and Garibaldi's (2005) study is indicative that in such cases government policies are bound to be more stringent and this does not encourage SMEs to develop an increasing range of opportunities that may be available. As a result, negative consequences that are undesirable like increased rates of unemployment are noted. In developing economies, SMEs' operations which are suspected to be linked to political activities which are against the ruling regimes will definitely be resisted. On many occasions this has caused the government to institute policies that make it hard for SMEs to survive. In such a case the government considers these SMEs to be a threat to its regime and starts coming out with policies that will fail these SMEs.

We now examine our next hypothesis:

H<sub>2</sub> *There is a significant and positive relationship between entrepreneurial orientation and government policy.*

#### **5. Government Policy and SMEs' performance**

Government policy is aimed at improving a variety of entrepreneurs taking into account the fact that entrepreneurs are often very diverse and thus worth considering differently using different strategies (Albrecht et al., 2009). Scholars have also found different links between government policies and SMEs' performance and sustainability. For example, Schneider and

Enste (2000) show that government policies may ultimately impact the performance of SMEs because they encompass issues such as taxes which affect the sustainability of the SMEs. However, these findings are contested by Friedman et al., (2000) whose work shows that government policies will not necessarily impact on the performance of SMEs.

Johnson et al., (1997) found that there was a statistically significant but negative relationship between government policies and SMEs' performance. Government policies in this case may fail to positively influence SMEs' performance for a variety of reasons especially in developing nations. In most of the developing nations, the failure to realize this link may be attributed to rampant corruption (Aruoba, 2010).

Elgin (2010) includes other factors such as political influences which combine with the factors mentioned earlier to make it impossible to realize the link between government policy and SMEs' performance. However, SMEs have to show that they need the government to be flexible in its trade related policies.

Business owners may decide to remain in business despite their losses because of the prestige that running a business attracts. Entrepreneurial orientation as a factor contributing to business performance along with government policy has been given little attention by researchers in Rwanda. It is not clear how successful SME owners have taken special care to make sure that entrepreneurial orientation is steered for the good of their businesses (Byukusenge and Munene, 2016). On a related note, little attention has been paid to identifying the degree to which entrepreneurial orientation relates to SMEs' performance.

H<sub>3</sub> *There is a significant and positive relationship between government policy and SME performance.*

## **6. Methodology**

Our study adopted a cross-sectional research design to examine the research variables over the duration of the study (Du Plessis, 2004). Our study employed the quantitative approach. The unit of analysis was the SMEs while the unit of inquiry was SME owners or managers. These persons were chosen as the unit of inquiry owing to the knowledge that they have about the day to day running of the business and the performance of the SMEs. Data was collected in Nyagatare district with SMEs as a unit of observation. According to the District Business Development and Employment Promotion Unit there were 4,623 registered SMEs in the district in 2015-16. Our research targeted 357 SMEs following Krejcie and Morgan (1970) but was only able to acquire usable responses from 226 SMEs. This represented a sample of 63.3 per cent which is considered representative enough. We used the simple random sampling approach to get the responses so as to avoid bias in estimation and to achieve consistency in the responses. Our study used both primary and secondary sources of data. The key source of primary data was the research questionnaire. This research questionnaire had structured items which were anchored using a Likert scale such that 1- represents strongly Disagree, 2 – Disagree, 3 – Uncertain, 4 – Agree and 5 – Strongly Agree.

Entrepreneurial orientation was measured using items that were developed with reference to the work of Lumpkin and Dess (2005); government policy (Boeri and Garibaldi, 2005) and SMEs' performance (Wiklund and Shepherd 2003).

We tested the research tool for reliability and validity. Reliability was tested using the Cronbach alpha coefficient (Cronbach, 1957). This measure assesses the internal consistency of the items. Higher values of the Cronbach alpha mean higher inter-correlations among the item scales. The scales are considered to be reliable if the findings that they can generate from the setting can also be acquired from another sample. Mirroring Cortina (1993) we learnt that the minimal acceptable value of the Cronbach alpha was 0.700. Any value less than that will either be questionable (if less than 0.7 but higher than 0.6) or considered poor (especially if it is below 0.600 but higher than 0.500). Unacceptable values are those for which the Cronbach alpha is less than 0.500. Content validity is the degree to which a tool or any other researcher's assessment reflects all the dimensions of a specific variable (Lawshe, 1975). The content validity index was established by considering the ratio of the number of relevant items to the total number of items that were used to measure that particular variable.

Insert Table 3 about here

The results in Table 3 show that the research study tool was both valid and reliable as indicated by the Cronbach alpha coefficient and the content validity index which were above 0.700 in both cases for all the study variables (Field, 2009). The research tool was then taken to the field and used for collecting data. Secondary sources of data included but were not limited to research journals, information from government policy papers, Nyagatare district records and statistics, reports of the Rwanda Development Board and the Ministry of Industry and Trade's annual reports (2012-13).

After gathering data from the field using the research questionnaire it was entered into the SPSS software package and analyzed. The statistical tools that were used include frequency distributions, the Pearson correlation coefficient and the hierarchical regression analysis.

## **7. Study Results**

We use frequency distributions to present the attributes of the businesses which participated in the study. Firm attributes such as the period for which the business had been running, the size of the workforce and ownership issues are presented to give a deeper insight into the profiles of the SMEs in the sample.

Insert Table 4a about here

The results in Table 4a show that a majority of the businesses in the study had been operating for 1-5 years (50.9) and only 8.8 per cent had been operating for over 10 years. This distribution is an indicator that there are very few SMEs that have survived for over 10 years. This can be attributed to their weak management styles and lack of structures among others. Table 4a also shows the SMEs that had over 20 employees (when it comes

to workforce) comprised only 16.4 per cent of the sampled SMEs. Very few SMEs could support a stronger workforce because of their limited business operations and working capital.

Insert Table 4b about here

Further, as can be seen in Table 4b, 35.4 per cent of the business owners believed that the environment was not conducive for them. In addition, most of them were not family owned businesses (98.2 per cent). The table further shows that managing of family businesses is still a challenge in SMEs in Rwanda.

## 8. Relationships between the Study variables

We tested the relationships using the Zero-Order Pearson Pearson ( $r$ ) correlations coefficient (Table 5).

Insert Table 5 about here

The results in Table 5 show that there is a significant and positive relationship between entrepreneurial orientation and SMEs' performance ( $r = .400^{**}$ ,  $p < .01$ ). The results are an indication that if well-cultivated, the entrepreneurial orientation of a firm will help enhance its performance in terms of profitability and sustainability. In other words, if SMEs neglect entrepreneurial orientation it is bound to bring about a steady decline in their performance. Entrepreneurial orientation has been examined earlier by various scholars and this can be verified by considering research in various other works. Hence, we accept our first alternative hypothesis:

H<sub>1</sub> *There is a significant and positive relationship between entrepreneurial orientation and SME performance.*

It was further noted that entrepreneurial orientation is still low as it was less than 3.00 (mean = 1.866, SD = .970). These results show that SMEs in Rwanda are still faring very poorly on this very important concept. Failure to take into account necessary measures for promoting entrepreneurial orientation will result in negative consequences such as loss of business or customer defection.

The hierarchical regression results in Table 5 show a positive and significant relationship between entrepreneurial orientation and government policy ( $r = .425^{**}$ ,  $p < .01$ ). Firms' whose managements promote creativity and innovativeness with a view to enhancing customer satisfaction and meeting customer needs are more likely to succeed. The growth of such firms will have an influence on the way that the government implements its policies. The government is bound to adjust the taxes levied, for instance, when it realizes that the SMEs are part of the solution to unemployment especially among the youth. In such cases, the government is bound to relax issues that pertain to registration of businesses. The findings lead us to accept the second research hypothesis:

H<sub>2</sub> *There is a significant and positive relationship between entrepreneurial orientation and government policy.*

Government policy with a mean of 1.828 and a SD of .957 rated quite poorly. SME owners did not believe in general that the government was doing enough to support them in spite of the efforts by SME managers to improve the rate at which they were employing youth. This low mean indicates that SME managers and owners believe that the government has not gone to great lengths to facilitate access to local, regional and international markets and market information, neither has it facilitated the promotion of innovation and technological capacities of SMEs for competitiveness in Rwanda. Further, the results also show that even when the government advertises how it has created a conducive legal and institution framework for SMEs in Rwanda, many of the nationals are yet to realize this.

The correlation results further show the relationship that exists between government policy and SME performance ( $r = .425^{**}$ ,  $p < .01$ ). The results show that government policy can easily influence SMEs' performance in a positive manner. Government policies such as favorable tax rates will ensure that SMEs have more incomes for further investments in their business operations. This investment can ensure outreach and a greater customer base for their businesses. These findings lead us to accept the research hypothesis H<sub>3</sub>:

H<sub>3</sub> *There is a significant and positive relationship between government policy and SME performance.*

SME performance was noted to be faring negatively and as such this led to their failing miserably (mean = 2.252, SD = .940). This unsatisfactory performance of the SMEs in Rwanda can be attributed to a lack of essential human and the financial resources. Most SMEs in general cannot meet their financial obligations and thus end up failing usually after less than two years of operations.

## **9. Regression Analysis Results**

We used the hierarchical regression model to examine the prediction level of entrepreneurial orientation and government policy on the dependent variable, SME performance. In the first Block or Model 1, entrepreneurial orientation was entered by itself. Government policy was also entered as a predictor variable in Block (Model) 2 with SME performance as the dependent variable for both the models.

Insert Table 6 about here

The hierarchical regression model's results in Table 6 show that entrepreneurial orientation in Model 1 is a significant predictor of entrepreneurial performance in the regression model (sig.  $< .05$ ). At this level in Model 1, it is noted that the R-square is only 15.7 per cent and Model 1 is statistically significant at the 99.0 per cent confidence interval level. Model 1 is statistically significant and could at the same time predict 15.3 per cent of the variance in SME performance if it is derived from the population of the SMEs. The reduction in the model's prediction for R-square and adjusted R-square is 0.004 which is quite minimal.

On a related note, it was also observed that in Model 2, when government policy was introduced in the model, the model improved slightly as the R-square improved from 15.3 per cent to 20 per cent and the model remained statistically significant (sig.  $< .01$ ). At the

same time, entrepreneurial orientation remained a statistically significant predictor of SME performance (Beta = .279\*\*,  $p < .01$ ). These findings confirm hypotheses H<sub>1</sub> and H<sub>3</sub> which were supported by the findings of the correlations coefficient results in Table 5. Regarding collinearity, collinearity in the regression model is often taken care of but a multi-collinearity is a situation in the regression analysis when the predictor variables are so highly correlated with each other that they render the regression model almost useless in an interpretation of the effect of the predictors. A well-known and suggested measure of the collinearity is the Variance Inflation Factor (VIF) which should not exceed 10 in the worst case. Bowerman and O'Connell (1990) argue that when VIF values are greater than 10, the collinearity is a problem in the model and thus should be well addressed before interpreting the rest of the model. This idea is supported the Myers (1990). On the other hand, tolerance is simply the inverse of VIF and its values are less than 0.1 indicating a very grave problem in the regression. Our research results show that VIF was within the acceptable model limits, that is, less than 1.500 for both Models 1 and 2 showing that collinearity was not a problem in the data.

## **10. Analysis of Variance (ANOVA) Results**

ANOVA results give us further insights into the nature of the sampled SMEs.

Insert Table 7 about here

The ANOVA results show that the SMEs differed in the concept of entrepreneurial orientation ( $F = 8.720$ ,  $\text{sig.} < .05$ ) when examined for the period for which they had been operating. On government policy and SME performance, it is noted that there was no significant difference among the SMEs relative to the period for which they had been operating. It follows that the longer the period for which a SME has been managed successfully, the more it is likely to have a notable change in the level of its entrepreneurial orientation. It can be seen from Table 7 that the level of entrepreneurial orientation of the firms tends to decline as they operate for longer periods of time. This result on entrepreneurial orientation poses another challenge for SMEs. SMEs are very likely to deteriorate on this variable as they spend longer periods of time operating. This can be attributed to the fact that SMEs tend to have higher staff turnover rates and this compromises the quality of services that their members can provide to customers over prolonged periods of time.

## **11. Discussion of the Results**

Our findings show a positive and significant relationship between entrepreneurial orientation and the other study variables -- government policy and SME performance. Government policy was noted to be significant and positively related to SME performance, indicating that all our research alternative hypotheses were highly supported. Considering the link between entrepreneurial orientation and SME performance, our finding is supported by earlier scholars such as Lumpkin and Dess (1996) whose work is indicative that firms which have a strong bias towards entrepreneurial orientation are more likely to achieve their

business targets. Wiklund and Shepherd (2005) concur with Lumpkin and Dess (1996) in stating that much as there has been overwhelming evidence of the great potential of entrepreneurial orientation in helping businesses achieve their goals, many businesses have not leveraged the significant role of entrepreneurial orientation to achieve their financial and non-financial performance targets.

There are very few studies, especially in the developing world which link entrepreneurial orientation and SME performance and many researchers have not taken a keen interest in the subject especially in African countries (Kreiser, 2011). Some scholars like Anderson et al., (2009) and Mueller et al., (2012) have attempted to explain the mechanism by which entrepreneurial orientation predicts SME performance. They believe that entrepreneurial orientation does improve the learning capabilities of the management and the management is better placed to handle the problems of running a business in a dynamic business environment.

On the basis of our findings it can be concluded that there has been no coordinated policy to address the SME landscape and unlock SMEs' underlying potential in national development. To achieve increased off-farm employment and tax revenues, the Government of Rwanda needs to implement a coherent and coordinated policy to create an enabling environment for the growth of the SME sector in Rwanda. Such a collaboration can optimize SME structures and facilitate utilization of knowledge and expertise and provide access to latest technologies, equipment and financial products and services. Several recent policies of the Government of Rwanda focus on cluster development for value-addition sectors to increase the country's international competitiveness, create more opportunities, expand the supply of skilled people and technology, expand the local supplier base, increase efficiency and productivity and foster innovations. The government needs to put in more effort in building an entrepreneurial spirit among Rwandans; more effort can also be put in for building an inclusive financial sector in Rwanda. To improve the performance of SMEs in Rwanda, it is recommended that more effort be put in to attract further investments mostly in the services, industry and agriculture sectors so that they can satisfy the domestic market and have surplus for exports as well.

## **12. Policy Implications and Recommendations**

Our statistical findings show that government policy and entrepreneurial orientation are significant predictors of SMEs' performance. This has policy implications for the government. SMEs have to pay the same registration fees as the more advanced and developed businesses which do not have any difficulty in paying taxes thanks to their enormous turnovers and profits. To help SMEs, there is a need to ensure that helpful policies are developed. Failure to do so will lead to the failure of more SMEs, aggravating the already serious problem of unemployment.

Further, the existing trade policy gives free entry and marketing of goods in the country and these directly compete with the local SMEs who have to endure high energy bills. To help local Rwandese SMEs to have a competitive edge, there is a need to reduce their energy bills. The rates should be revised downwards for registered SMEs so that they can save more

resources for other investments and innovations. Energy bills such as electricity bills have cut deep into the resources of the SMEs and more so for those who have to rely heavily on electricity usage like businesses in the welding and metal fabrication sector which have seen heavy failure rates due to high power rates.

Our findings can be used by SME managements to promote entrepreneurial orientation through several well thought out employee performance measures. Among these, the management should consider using periodic performance appraisals for their employees which should be conducted with the major aim of assisting employees to perform better. These performance appraisals should then be examined for weaknesses and strengths. Where the employees have shown extraordinary performance, due credit should be given. However, when weaknesses are identified, the management should assess these weaknesses and determine which ones are likely to have led to poor performance on the entrepreneurial orientation construct. Employees should then be assisted from that perspective. Sometimes, the employees may need to be trained after a careful needs assessment while at other times, they may need simple counseling and sharing their personal problems with the management. Further, managements should also prioritize and evaluate the effectiveness of training so that value for money can be realized.

SME managements are in a position to lobby for better policies from the government to enhance their business performance. SME managers should team up with other recognized and non-political institutions such as NGOs and humanitarian organizations such as the International Labor Organization when they notice some critical points where they are being oppressed by the government. This oppression may be in the form of very high and unexplained taxes, stringent and bureaucratic registration processes or restrictions on the geographical areas within which the SMEs are allowed to conduct their businesses. In some cases, Members of Parliament may be very effective and useful in fighting for the welfare of the SMEs.

More efforts should also be made to attract further investments mostly in the services, industry and agriculture sectors for more productivity to satisfy the domestic market and to have surplus for exports.

RDB, RRA and the districts should work more closely to have full information about SMEs to be able to respond to their specific needs.

We recommend pursuing urbanization programs as it has been proven that urban areas attract more investments than rural areas as more business people in Nyagatare district have shifted to Kigali for investment purposes and for better business opportunities.

### **13. Limitations of the study**

Our study has some limitations owing to the limited nature of its geographical and conceptual scope. It does not cover firms in sectors other than SMEs. It would have been better if the findings of our research could be validated by the findings in another sector such as banking. Perhaps researchers can take our research forward and try and verify our findings by say the telecom sector or the agricultural sector.

We were also limited by the very scanty research on SMEs in Rwanda especially in entrepreneurial orientation and SME performance. Secondary data was very hard to access, a challenge not made any easier given the secretive nature of the government institutions in Rwanda.

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Table 1: Definition of SMEs in the European Commission (EC)

Company Category	Staff Head Count	Turnover	Balance Sheet
Medium sized	Less than 250	Less than or equal 50M	Less than or equal 43M
Small	Less than 50	Less than or equal 10M	Less than or equal 10M
Micro	Less than 10	Less than or equal 2M	Less than or equal 2M

Source: European Union.

Table 2: Definition of SMEs in the Rwandan context

Size of the enterprise	Net capital investment (million Rwf)	Annual turnover (million Rwf)	Number of employees
Micro	Less than 0.5	Less than 0.3	1 to 3
Small	0.5 to 15	0.3 to 12	4 to 30
Medium	15 to 75	12 to 50	31 to 100

Source: Ministry of Trade and Industry (2010).

Table 3: Reliability and validity of the research study

Variable	Cronbach Alpha Coefficient	Content Validity Index
Entrepreneurial Orientation	.817	.833
Government Policy	.904	.833
SME Performance	.780	.750

Source: Primary data.

Table 4a: Firm Characteristics-Firm age and Workforce Size

N = 226		Count	Per cent	Cumulative Per cent
Period the firm has been operating	1 - 5 yrs	115	50.9	50.9
	5 - 10 yrs	91	40.3	91.2
	Above 10 yrs	20	8.8	100.0
N = 226		Count	Per cent	Cumulative Per cent
Workforce Size: Number of employees in the Business	1- 5	61	27.0	27.0
	5-10	24	10.6	37.6
	10-15	59	26.1	63.7
	15-20	45	19.9	83.6
	Over 20	37	16.4	100.0

Source: Primary data.

Table 4b: Firm Characteristics-Business Environment and Ownership

		Count	Per cent	Cumulative Per cent
Is Business environment conducive?	Yes	146	64.6	64.6
	No	80	35.4	100.0
		Count	Per cent	Cumulative Per cent
Is your company owned by a family?	Yes	4	1.8	1.8
	No	222	98.2	100.0

Source: Primary data.

Table 5: Pearson Correlation Results

	Mean	SD	1	2	3
Entrepreneurial Orientation-1	1.866	.970	1.000		
Government Policy-2	1.828	.957	.425**	1.000	
SME Performance-3	2.252	.940	.400**	.371**	1.000

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

Source: Primary data.

Table 6: Regression Model

	Model 1	Model 2
(Constant)	1.530**	1.279**
Entrepreneurial Orientation	.380**	.279**
Government Policy		.240**
Dependent Variable: SME Performance.		
R	.396	.455
R-Square	.157	.207
Adjusted R-Square	.153	.200
Std. Error of the Estimate	.852	.828
Change Statistics	.157	.050
F-Change	4.805	13.827
Sig. F-Change	.000	.000
Average Tolerance	1.000	.819
Average VIF	1.000	1.221

Note: sig; \*\*< .01, \*<.05

Source: Primary data.

Table 7: ANOVA results for Business Age by Variable

N = 226		N	Mean	SD	Std. Error	F	sig.
Entrepreneurial Orientation	1 - 5 years	115	2.122	1.109	.103	8.720	.000
	5 - 10 years	91	1.615	.742	.078		
	10 and Above	20	1.550	.510	.114		
Government Policy	1 - 5 years	115	1.948	1.083	.101	1.943	.146
	5 - 10 years	91	1.736	.786	.082		
	10 and Above	20	1.600	.681	.152		
SME Performance	1 - 5 years	115	2.530	.985	.092	.223	.801
	5 - 10 years	91	2.462	1.014	.106		
	10 and Above	20	2.600	.681	.152		

Source: Primary data.

Appendix 1: Table for Determining Sample Size from a Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	168	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	198	3000	341
80	66	420	201	2500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note: N = population size

S = sample size

Source: Krejcie and Morgan (1970).