

EFFECT OF FINANCIAL LITERACY ON STOCK MARKET PARTICIPATION BY SMALL AND MEDIUM ENTERPRISES IN RWANDA: A CASE KIMIRONKO MARKET

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ABSTRACT

Financial markets especially in developing countries are dominated by commercial banks, which have not been reliable sources of long-term financing. The non-bank sources including SMEs are generally underdeveloped with few willing to participate in the stock markets. The general objective for this study was to assess the effect of financial literacy on the participation of stock market by SMEs in Rwanda. The study sought to address the following specific objectives; to determine the effect of financial knowledge on stock market participation by SMEs in Rwanda; to evaluate the effect of financial behavior on stock market participation by SMEs in Rwanda and to assess the effect of financial attitudes on stock market participation by SMEs in Rwanda. The study adopted a descriptive research design that involved collection of qualitative and quantitative data. The target population for this study was 130 SMEs that operate within Kimironko commercial centre that are registered with private sector federation. A total of 98 SMEs operators constituted the sample size for this study. The study adopted random sampling method to select SMEs that were included in the study. The study used questionnaire as the primary data collection tools. Descriptive statistics was generated through descriptive analysis to obtain frequencies and percentage of study variables. Multiple regression analysis was done to determine the relationship between study variables. Statistical Package for Social Science was used as the appropriate tool for data analysis. Results were presented in tables, graph and pie charts. The study findings indicated that there was a significant relationship between financial knowledge, financial behavior, financial attitude and stock market participation by SMEs ($P < 0.01$). Regression analysis showed that 81% of the variation in the dependent variable (stock market participation by SMEs) is explained by the independent variables (Financial Knowledge, Financial behavior, financial attitudes). The study concluded that there is a positive and significant relationship between financial literacy and stock market participation by SMEs. Therefore, Rwandan SMEs can participate more in stock market through enhanced financial literacy. The study recommends that SMEs should be trained on financial literacy in order to participate in stock market.

1.1 Background Of The Study

Over the last two decades, many African countries have set up stock exchanges as a precondition for the introduction of market economies under the structural adjustment programs propagated by the international monetary institutions and to facilitate the privatization of state owned enterprises (Norvilitis et al., 2006). In many developing countries financial markets play an important role in the process of economic growth and development by facilitating savings and channeling funds from savers to investors (Remund, 2010).

Currently, individuals have become increasingly active in financial markets, and market participation has been accompanied or even promoted by the advent of new financial products and services. However, some of these products are complex and difficult to grasp, especially for the financially unsophisticated investors. At the same time, market liberalization and structural reforms in social security and pensions have caused an ongoing shift in decision power, away from the government and employers toward private individuals. Thus, individuals have to assume more responsibility for their own financial well-being (Hilgert et al., 2003)

Existing studies indicate that financial illiteracy is widespread and individuals lack knowledge of even the most basic economic principles (Lusardi and Mitchell (2006). Financial literacy in the form of knowledge about the stock market has also been related to stock market participation. In a study of a representative sample of the Dutch population it was found that many families shy away from the stock market because they have little knowledge of stocks and the stock market (van Rooij *et al.*, 2011).

Financial literacy has been an issue in many countries including developed and developing countries. The cost of low financial literacy is substantial for the society and has been clearly identified by researchers (Joo & Garman 1998, Cuter & Delvin 2000). It helps to make informed decisions and well-being of an individual. Policymakers in both developed and developing countries are increasingly recognizing the importance of financial literacy and of investing resources in financial education programs (Gallery et al., 2010). The term financial literacy can encompass concepts ranging from financial awareness and knowledge, including of financial products, institutions, and concepts; financial skills, such as the ability to calculate compound interest payments; and financial capability more generally, in terms of money management and financial planning (Remund, 2010). In practice, however, these notions frequently overlap. In today's world which has a market with complicated products, the need for financial literacy becomes inevitable. It also impacts the promotion of financial inclusion which ultimately results in financial stability of any economy (Cuter and Delvin 2000).

The stock market plays an important role in the financial lives of many individuals. Seeing stocks as a form of investment, many investors use it as a means to generate their asset based income. The capital market plays a fundamental role in stimulating economic growth and development through mobilization of resources in an economy (Yartey and Adjasi, 2007). The markets provide a platform for exchange of financial assets (stocks and bonds), following established regulations to provide continuous liquidity in the market.

In Rwanda, capital market started in 2005 as Rwanda-Over-TheCounter (OTC) market and later grew to Rwanda Stock Exchange (RSE) in 2011 (Steven, 2012). The RSE is operated under the jurisdiction of Rwanda's Capital Market Authority (CMA), previously known as Capital Markets Advisory Council (CMAC). In 2008 the Government of Rwanda established the capital market advisory council (CMAC) to run the Rwandan stock market as over the counter market (GoR, 2008). CMA has organized workshops all over the country explaining to the public and business people how the capital market functions and invite them to participate in stock market in Rwanda.

Study Objectives

The study was guided by the following objectives

- i. To determine the effect of financial Knowledge on stock market participation by SMEs in Rwanda
- ii. To evaluate the effect of financial behavior on stock market participation by SMEs in Rwanda
- iii. To assess the effect of financial attitudes on stock market participation by SMEs in Rwanda

Research Methodology

Research design

The study adopted a descriptive research design that involved collection of qualitative and quantitative data. A descriptive research design determines and reports the way things are (Mugenda and Mugenda, 2003). Creswell (2003) observes that a descriptive research design is used when data is collected to describe persons, organizations, settings or phenomena. The design also has enough provision for protection of bias and maximized reliability (Kothari, 2008).

Target population

The target population for this study was owners of 130 SMEs that operate within Kimironko commercial centre that are registered with private sector federation. This yielded a population of 130 SMEs owners from whom study data was collected. The study population was composed of different types of businesses including food stuff, dairy, supermarket, hardware and cosmetic shops, restaurants, bars and hotels, beauty salons, banks and pharmacies.

Sample size

A total of 98 SMEs operators constituted the sample size for this study. The sample size was calculated using Solvin's formula below;

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

Where;

n is the sample size,

N is the population size (130)

e is the desired level of precision (0.05)

$$n = \frac{130}{1 + 130(0.05)^2} = 98$$

Sampling Procedure

The study adopted random sampling processes in sampling the SMEs. SMEs that were included in the study were selected using simple random sampling technique. SMEs operators and owners or managers of the selected SMEs were recruited to the study.

Data collection Instrument

Creswell (2003) defines data collection as a means by which information is obtained from the selected subjects of an investigation.

Quantitative data was collected using self-administered questionnaires that comprised of close ended questions. The questionnaire consisted of two different sections: background information of the respondents and financial literacy. Questionnaire were preferred for this study because it facilitates easy and quick derivation of information within a short time (Kerlinger, 2004). Its low cost and adequacy of time for respondents to give responses further qualified its adoption (Kothari, 2008).

Data processing and Presentation

The completed questionnaires were edited for completeness and consistency. Data collected were edited to ensure that it is correct and complete thus reducing biases, increasing the precision and achieving consistency. Data was then analyzed using regression analysis and descriptive statistics. The results of analysis were visually displayed using graphs, frequency tables and charts.

A multiple regression model was applied to analyze the relationship between the various variables. It was also used to show how much variation in stock market participation could be explained by financial literacy. The model treat stock market participation as the dependent variable while the independent variables were the three dimensions of financial literacy namely; financial knowledge, financial behavior and financial attitude.

The variables under study were analyzed by applying the following model;

$$Y' = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Where: Y = Stock market participation.

a, b_1, b_2, b_3 = constants

X1 = Financial Knowledge

X2 = Financial behavior

X3 = Financial attitude

e = error term

The model helps to better understand how financial literacy would explain the variation in the stock market participation. SPSS was used to generate both regression and descriptive statistics. The study assumed that the relationship between the independent and dependent variables is linear, all variables are multivariate normal and that independent variables are independent from each other.

Research findings and Discussion

Demographic Information

The study sought to investigate the demographic information of the respondents. These data were important in ascertaining the background of the respondents and how they contribute to influence the objectives of the study. Demographic findings therefore presented in this section and they included; gender and age, education level, average monthly income category of enterprise and respondents main source of information about the investment market.

Distribution of Gender of respondents

The study sought to determine the distribution of gender among the study samples. The study findings revealed that majority (60%) of the study participants were female while male participants constituted 40 % of the study sample as indicated by figure 1. This indicates that SMEs within Kimironko commercial centre are operated by both male and female entrepreneurs. However most of the SMEs operators in Kimironko are female.

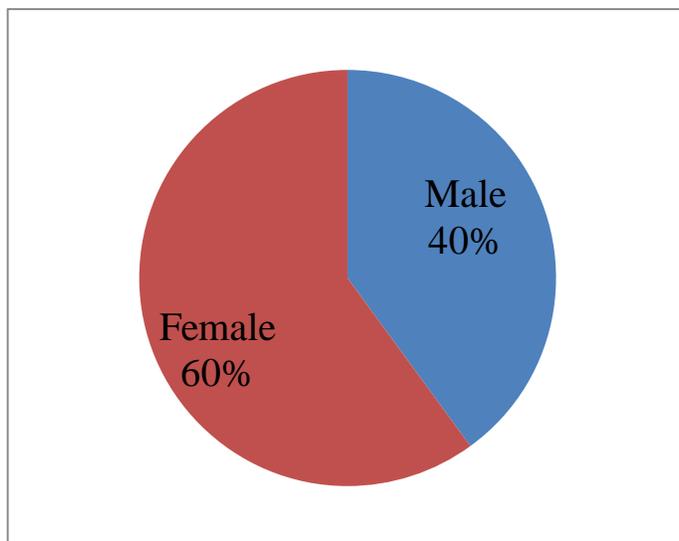


Figure 1: Gender distribution

Age of respondent

The study further sought to establish the distribution of age of the respondents. Data collected under age were presented in the table 1

Table 1: Age distribution of Respondents

Age Group	Frequency	Percent (%)
<30 years	21	25
31-40 years	45	52
41-50	20	23
Total	86	100.0

Table 1 indicate that majority 52% of the respondents were aged between 31-40years, 25% of the respondents were aged below 30years, 23% of the respondents were aged between 41-50 years. The finding therefore implies that majority of the SMEs operators in Kimironko are aged between 31-40 years of age.

Level of Education

The study sought to determine the education level of SMEs operators in Kimironko who participated in the study.

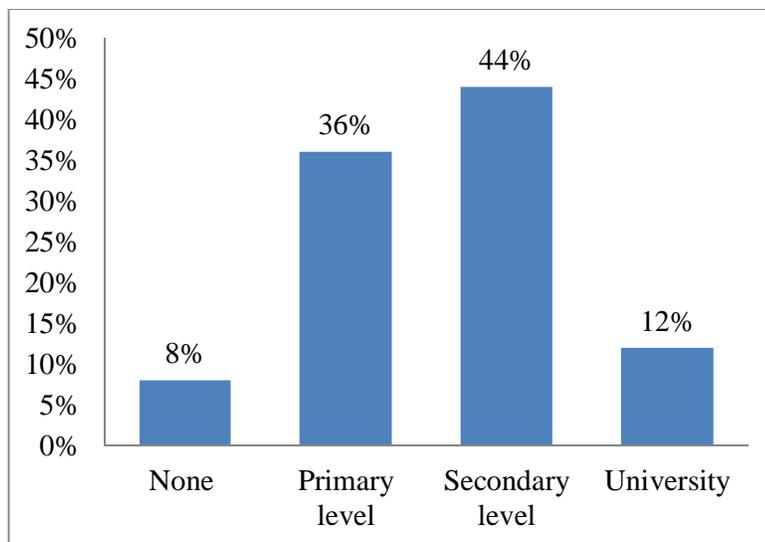


Figure 2: Distribution of Education level

Figure 2 indicates that 44% of the respondents had secondary level of education, 36% has primary level education, 12% had attained university education level while 8% did not have any formal education.

Categories of SMEs

The study sought to determine the categories of SMEs

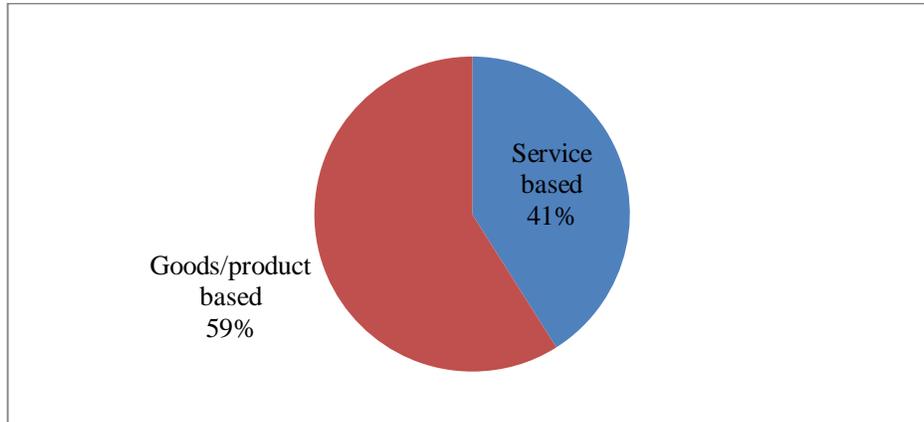


Figure 3: Distribution of SME categories

Figure 3 indicates that most (59%) of the SME in Kimironko were goods or product based while 41% were service based.

Income per month

Analysis of respondent's information pertaining to their income per month in Rwf is indicated in table 2

Table 2: Respondent's monthly Income in Rwf

Age	Frequency	Percent (%)
<50,000	22	26
51,000-100,000	49	57
101,000-200,000	13	15
>201,000	2	2
Total	86	100

Table 2 shows that income for most (57%) of the respondents per month was between 51,000-100,000 Rwf, 26% had a monthly income of below 50,000 Rwf, 15% had a monthly income of between 101,000-200,000 Rwf while 2% had a monthly income of above 201,000 Rwf.

Source of information on investment market

The study sought to determine the respondents' main source of information on investment market.

Table 3 Distribution of information source

Household size	Frequency	Percentage (%)
Print media	18	21
Television	45	53
Websites	14	16
From brokers/fund managers	9	10
Total	86	100

Table 3 shows that most (53%) of the respondents obtained information regarding investment market from television, 21% of the respondents indicated print media as their source of information, 16% stated websites while 10% indicated that the obtained information from brokers/fund managers. This implies that respondents were well informed regarding investment market.

Effect of financial Knowledge on stock market participation by SMEs

The study sought to determine the effect of financial Knowledge on stock market participation by SMEs.

Table 4 Effect of financial Knowledge on stock market participation by SMEs

Statement	Strongly agree	Agree	Disagree
Financial knowledge influence your participation in stock market	28(32%)	47(55%)	11(13%)
My SME have a budget	44(51%)	28(33%)	14(16%)
High inflation means that the cost of living is increasing rapidly	65(76%)	8(9%)	13(15%)
It is possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares.	52(60%)	29(34%)	5(6%)
Stocks are normally riskier than bonds	52(60%)	34(40%)	
Through Financial education you can evaluate financial products	47(49%)	59(51%)	
Stocks displays the highest fluctuations over time than bonds	59(69%)	16(19%)	11(12%)
I can make informed decisions on my finances.	53(62%)	33(38%)	
I have created a saving plan	64(74%)	22(26%)	
I make strategic investment decisions using financial knowledge	54(63%)	32(37%)	

Table 4 indicate that 32 % of the respondents strongly agreed with the statement that financial knowledge influence your participation in stock market, 55% just agreed while 13% disagreed with the statement. Majority (51%) of the respondents strongly agreed with the statement that their SME have a budget, 33% just agreed while 16% disagreed. The table also shows that 76% of the respondents strongly agreed with the statement that high inflation means that the cost of living is increasing rapidly, 9% just agreed with the statement while 15% disagreed. Majority (60%) of the respondents strongly agreed with the statement that it

is possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares, 34% just agreed while 6% disagreed. Sixty percent of the respondents strongly agreed with the statement that stocks are normally riskier than bonds while 40% just agreed. Also, 45 % of the respondents strongly agreed with the statement that through financial education one can evaluate financial products while 55% agreed with the statement. Majority (69%) of the respondents strongly agreed with the statement that stocks displays the highest fluctuations over time than bonds, 19% just agreed while 12% disagreed. The table also shows that 62% of the respondents strongly agreed with the statement that they could make informed decisions on their finances while 38% just agreed with the statement. Majority (74%) strongly agreed that they have created a saving plan while 26% agreed with the statement. Majority (63%) of the respondents strongly agreed with the statement that they make strategic investment decisions using financial knowledge and 37% agreed with the statement.

Table 5 Correlation between financial Knowledge and stock market participation

		Stock participation	marketFinancial Knowledge
Stock market participation	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	86	
Financial Knowledge	Pearson Correlation	.621**	1
	Sig. (2-tailed)	.001	
	N	86	86

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

Table 5 indicates that there was a significant relationship between financial knowledge and stock market participation by SMEs ($R = .621$, $P < 0.01$). This implies that availing SMEs operators with necessary financial knowledge would improve their participation in stock market.

Effect of financial behavior on stock market participation by SMEs

The study sought to determine the effect of financial behavior on stock market participation by SMEs.

Table 6: Effect of financial behavior on stock market participation by SMEs

Statement	Strongly agree	Agree	Disagree
I purchase a financial product after gathering information about it.	17(20%)	33(38%)	36(42%)
I have invested in shares.	13(15%)		73(85%)
I have a budget for my business	31(36%)	48(56%)	7(8%)
My SME has strategies for managing risks	9(10%)	29(34%)	48(56%)

Table 6 indicate that majority of the respondents disagreed with the statement that they purchase a financial product after gathering information about it, 38% of the respondents agreed while 20% strongly agreed with the statement. Majority (85%) disagreed with the statement that they have invested in shares while 15% strongly agreed with the statement. Also, 56% of the respondents agreed with the statement that they have a

budget for their business, 36% strongly agreed while 8% disagreed with the statement. Majority (56%) of the study respondents disagreed with the statement that their SME has strategies for managing risks, 34% agreed while 10% strongly agreed with the statement.

Table 7: Correlation between financial behavior and stock market participation

		Stock market participation	Financial behavior
	Pearson Correlation	1	
Stock market participation	Sig. (2-tailed)		
	N	86	
	Pearson Correlation	.525**	1
Financial behavior	Sig. (2-tailed)	.001	
	N	86	86

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

Tables 7 indicate that there was a significant relationship between financial behavior and stock market participation ($r = .525$, $p < 0.01$). This implies that ensuring the SMEs adopt relevant financial behavior that relates to stock market would lead to improved participation in stock market by SMEs.

Effect of financial attitudes on stock market participation by SMEs

The study sought to determine the effect of financial attitudes on stock market participation by SMEs.

Table 8: Effect of financial attitudes on stock market participation by SMEs

Statement	Strongly agree	Agree	Disagree
I find it more satisfying to spend money than to save it for the long term	65(76%)	21(24%)	
I tend to live for today and let tomorrow take care of itself	57(66%)	23(27%)	6(7%)
Money is there to be spent		11(13%)	75(87%)
I prefer spending rather than risking your money in stock market	34(40%)	30(35%)	22(25%)
I think that SMEs have the capacity to participate in stock market	15(17%)	19(22%)	52(61%)

Table 8 indicates that 76% of the respondents strongly agreed with the statement that they find it more satisfying to spend money than to save it for the long term, 24% agreed with the statement. Majority (66%) of the respondents strongly agreed with the statement that they tend to live for today and let tomorrow take care of itself, 27% just agreed while 6% disagreed with the statement. The study findings also showed that 40% of the respondents strongly agreed with the statement that they prefer spending rather than risking their money in stock market, 35% just agreed while 25% disagreed with the statement. Also, 61% of the respondents disagreed with the statement that they think that SMEs have the capacity to participate in stock

market, 22% agreed while 17% strongly agreed with the statement.

Table 9 Correlation between financial attitudes and stock market participation

		Stock market participation	Financial attitudes
	Pearson Correlation	1	
Stock market participation	Sig. (2-tailed)		
	N	86	
	Pearson Correlation	.598**	1
Financial attitudes	Sig. (2-tailed)	.000	
	N	86	86

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

Table 9 indicate that stock market participation is significantly correlated to employee financial attitudes ($r=0.598$, $p<0.01$). This implies that the more the SMEs operators develop positive attitude toward stock market the more they will participate in stock market.

Effect of Financial literacy on stock market participation

The study sought to determine the effect of financial literacy on stock market participation by SMEs.

Table 10: Effect of Financial literacy on stock market participation

Items	Yes %	No %
Investors with high financial knowledge participate in stock market more	63(73%)	33(27%)
Financial behavior of SMEs operators/owners affect their participation in stock market	56(65%)	30(35%)
Financial attitude has a significant effect on stock market participation	66(77%)	22(23%)

Table 10 indicate that 73% of the study participants felt that investors with high financial knowledge participate in stock market more than those with low knowledge. Also, 65% indicated that financial behavior of SMEs operators/owners affects their participation in stock market. Further, 77% of the study participants felt that financial attitude has a significant effect on stock market participation.

Regression Analysis

Regression analysis was conducted to determine how much variation in stock market participation by SMEs would be attributed to the various aspects of financial literacy under study.

Table 11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.853 ^a	.815	.807	12.63

a. Predictors: (Constant), Financial Knowledge, Financial behavior, Financial attitudes

Table 12 indicates that 81% of the variation in stock market participation by SMEs could be attributed to Financial Knowledge, Financial behavior, financial attitudes.

Table 13 ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.254	3	.751	5.690	.000 ^b
	Residual	17.843	120	.132		
	Total	21.097	123			

a. Dependent Variable: Stock market participation

b. Predictors: (Constant) Financial Knowledge, Financial behavior, financial attitudes.

Table 13, presents the results of Analysis of Variance (ANOVA) on effect of financial literacy on stock market participation by SMEs. The ANOVA results for regression coefficient indicate that the significance of the F is 0.00 which is less than 0.05. This implies that there is a positive significant relationship between financial literacy and stock market participation. This also indicates that the model is a good fit for the data.

Table 14 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.475	.177		2.688	.008
	Financial Knowledge	.250	.070	.166	1.861	.015
	Financial behavior	.128	.097	.096	1.112	.026
	Financial attitudes	.184	.070	.236	2.615	.010

a. Dependent Variable: Stock market participation

The study adopted the following regression model

$$Y' = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Fitting the coefficients to the model, the following regression equation was generated;

$$Y = 0.415 + 0.250 (\text{Financial knowledge}) + 0.128 (\text{Financial behavior}) + 0.184 (\text{Financial attitude}).$$

Table 14 indicates that the holding financial knowledge, financial behavior and financial attitude to a constant zero, stock market participation by SMEs would be 0.415. The regression equation also revealed that for every unit increase in the level of financial knowledge a 0.250 unit increase in stock market participation by SMEs is predicted. Likewise a unit increase in financial behavior lead to increase in stock market participation by SMEs by a factor of 0.128, holding all other variables constant. Further, for every unit increase towards a positive stock market attitude, a 0.184 unit increase in stock market participation by SMEs is predicted, holding all other variables constant. The p-values for all variables were less than 0.05 indicating that all the variables were statistically significant in influencing stock market participation by SMEs.

Conclusions and Recommendations

Conclusions

Basing on the summary of the findings of this research the following conclusions were drawn in line with the specific objectives. The study concluded that there is a positive and significant relationship between financial literacy and stock market participation by SMEs. Also the study concluded that 81% of the variation in the stock market participation by SMEs could be explained by financial literacy. Therefore, Rwandan SMEs can participate more in stock market through enhanced financial literacy.

Regarding the effect of financial behavior on stock market participation by SMEs, the study concluded that SMEs operators do not purchase financial products after gathering information about them. It was also concluded that the SME operators have not invested in shares and also they do not have strategies for managing risks.

The study further concluded that the SMEs operators preferred spend money than to save it for the long term. Additionally, they tend to live for today and let tomorrow take care of itself. The study also concluded that the SMEs operators prefer spending rather than risking their money in stock market. SME operators at Kimironko market think SMEs do not have the capacity to participate in stock market.

Recommendation

With the evidence of a positive and significant relationship between financial literacy and stock market participation by SMEs, the study recommends that SMEs should be trained on financial literacy.

Suggestion for Further Studies

This study sought to determine the effect of financial literacy on stock market participation by SMEs with a focus on SMEs within Kimironko commercial center. It is therefore recommended that similar studies should be replicated in various organizations and different groups, and the results compared so as to establish whether the same variables will have same effect in the various organizations and groups.

Since this study covers only SMEs in Kimironko, there is need for further study that will cover other urban areas in the country and indeed the entire country. It's also recommended to conduct a study that will focus on the extent of financial literacy training among SMEs operators.

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