Impact of Education and Training on Entrepreneurial Behavior in Kenya: An Application of the Resource-Based Theories

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Abstract
This study examined the impact of education, training, experience and access to credit on the behavior of entrepreneurs in Kenya. The focus is on the following specific behavioural traits: risk taking, innovativeness, focus on results and the sense of responsibility. To achieve the above objective a survey of over 170 Micro and Small Enterprises (MSEs) engaged in trade, manufacturing, construction, and service ventures was carried out in Kariobangi, Kasarani Division of Nairobi County in Kenya. The study applied non-parametric statistics (chi-square) tests on the null hypotheses of independence between education and training and the specific entrepreneurial behaviours mentioned above. The null hypotheses were all invariably rejected. Furthermore, multivariate analysis of variance was applied on the data. The results demonstrate that education and training, experience and access to credit have a strong influence on risk taking, innovativeness, focus on results and the sense of responsibility of the entrepreneurs. Therefore, this study concludes that both education and training have a significant positive impact on entrepreneurial behavior.

Key words: Micro and Small Enterprises, Education, Training, Risk taking Behavior, Innovativeness, Access to Credit, Entrepreneurial Behavior, Manufacturing, Services, Trade, Construction

1. Introduction
The field of entrepreneurship is now characterized by a lot of debate, especially about the nature of the concept itself and the factors that determine entrepreneurial behavior and success of the MSE (Shane and Venkataraman, 2000). Various meta-analytic studies of entrepreneurship have found that there is still limited knowledge about factors influencing entrepreneurial behavior and what causes growth in the MSE (Davidsson and Wiklund, 2000). There is also limited consensus concerning these fundamental issues within the entrepreneurship discipline. However, there is emerging consensus concerning the mindset of the entrepreneur (Miller, 1983; Auger, Banir and Gallagher, 2003). Scholars researching this aspect of entrepreneurship appear to agree on the following characteristics of entrepreneurial MSEs: innovativeness, risk taking and proactiveness.

The term innovativeness is used to refer to a MSE’s predilection to creativity and ability to introduce new products in the market. While risk taking behavior is characterized by high financial leverage, high investments in risky ventures and moving into new lines of business previously unexplored and unexploited by any MSE. A proactive MSE is one that seeks opportunities, anticipates future demand and is competitive (Miller, 1983). Several studies have examined the relationship between a MSE’s innovativeness, risk taking and proactiveness and its performance (Wiklund, 1999; Zahra, 1991; Auger, Banir and Gallagher, 2003; Hart, 1992). Some scholars have found a strong and significant relationship between these characteristics and performance (Wiklund, 1999; Zahra, 1991). However, other studies done elsewhere report the presence of only a weak or absence of such a relationship (Auger, Banir and Gallagher, 2003; Hart, 1992). These findings have been attributed to differences in methodologies used and the possibility of a diverse set of intervening variables.

The relationship between education and training and entrepreneurial behavior of SMEs or MSEs’ performance are controversial (Ndege, 1990; Njoroge & Gathungu, 2013; Kisaka & Mwewa, 2014). While Kisaka & Mwewa (2014) found a positive relationship between training and SMEs Performance the relationship was not statistically significant. Njoroge & Gathungu (2013) examined the impact of entrepreneurial education and training on the development of SMEs in Githunguri District in Kenya. They found out that education has a positive impact on performance of SMEs only during the first year of formation. In order to grow and survive the competition, more education on financial management, strategic management and marketing is required. This seems to suggest that education has a negative impact on the performance of SMEs after the first year of operation since many SMEs lack the requisite skills. Ndege (1990) studied the impact of education on the performance of MSEs in Gikomba Market in Nairobi. Using different measures of performance like the initial capital invested and the capital accumulated over the life of the MSE, he concluded that education has a negative impact on MSEs’ performance (Ndege, 1990: 159). Therefore, empirical evidence on the relationship between education and training and SME or MSE performance is mixed.

This study examined the factors that influence the entrepreneurial behavior of the MSEs and by extension, MSE performance. It is argued that the level of education, prior training in a particular trade, accumulated experience and access to credit might combine to influence the entrepreneurial posture of the MSE thereby influencing how the MSE survives and competes. Entrepreneurial behavior would also increase the self-awareness of the
entrepreneur with respect to gaps in his knowledge and skills hence driving him to crave for and acquire more, through education and training.

The study is divided into four sections. Section 1 is the introduction, which provides the background to the study. The theoretical framework is discussed in section 2 where the endogenous growth theory, the knowledge based theory and the resource dependence theory together with the hypotheses are presented. The conceptual framework is discussed together with the data, sampling technique and the data analysis instruments in section 3. The results of the study are discussed in section 4. Section 5 is the conclusion. Lastly, section 6 presents the policy implications of the results.

2. Literature Review

There is a dialectic relationship between education and training, and entrepreneurial behavior (Clark, Davis & Harnish, 1984; Cho, 1998). More specifically, education and training would influence the level of innovation of the MSE through motivation, knowledge and skills necessary for successful venture creation and growth (Cho, 1998). They would also influence the choice of risks to be undertaken and heighten the entrepreneur’s sense of responsibility and concern for results (Lee, Chang & Lim, 2005). Entrepreneurship can also influence the type of education and training that will enable the MSE to survive as well as compete with others.

The relationship between entrepreneurial behavior and, education and training can also be indirect. This is evident through the Impact of entrepreneurship on organizational learning. Entrepreneurship could influence the way a MSE acquires, assimilates and utilizes knowledge to leverage its competitive advantage and performance (Cohen and Levinthal, 1990; Huber, 1991).

The literature distinguishes between two aspects of organizational learning: the real absorptive and the potential absorptive capacity (Cohen and Levinthal, 1990; Huber, 1991). The latter refers to the entrepreneur’s current ability to learn as measured by the current level of education, training and experience. The former refers to current ability to apply existing knowledge to solve problems facing the MSE. This aspect of learning is not easily amenable to measurement.

Wambbugu (2002) studied the risks of investing in entrepreneurial training of trainers in Nairobi. He found out that lack of education and training was one of the key factors that hamper the growth of enterprises in Kenya. Njoroge and Gathungu (2013) examined the effect of entrepreneurial education and training on the development of MSEs in Githunguri District in Kenya. They found out that lack of education and training in financial management, marketing and strategic management reduced chances of MSEs growing beyond their first five years of life. The current study addresses the issue of how education and training impacts on entrepreneurial intentions and behaviour.

In this study we utilize the endogenous growth theory, the knowledge-based theory and the resource-based theory to build our theoretical framework. We derive testable hypotheses from this conceptual framework to empirically examine the entrepreneurship - knowledge (education and training) nexus, with experience and access to credit as the moderating and intervening variables, respectively.

2.1 Endogenous Growth Theory (EGT) and the Knowledge-Based Theory (KBT)

The endogenous growth theory and the KBT both underline the role of knowledge in increasing productivity within the MSE and the economy (Romer, 2001: 115 – 149; Zahra, Nielsen & Bogner, 1999). Therefore MSEs and economies, which have highly educated and trained manpower, are likely to be high performers compared to those that lack these key resources. The reason is that well-educated and trained employees are proactive and quick at learning and applying new skills to improve efficiency, productivity, risk taking and innovativeness of the MSE (Timmons, 1999).

The knowledge-based theory also distinguishes between two types of learning on the basis of the context within which it occurs. First, there is exploitative learning, which is external to the MSE and therefore must be acquired. Second, we have explorative learning, which obtains from inside the MSE and thus can occur only through internal experiments (Zahra, Nielsen, and Bogner, 1999) and hence is experiential in nature. Therefore, this study relates entrepreneurial behavior to experimental learning (Reynolds, 2007; Kolb, 1984; Cope & Watts, 2000; Gibb, 1996; Vinton & Alock, 2004).

Expierential learning and learning by doing are fundamental processes of knowledge development for entrepreneurs. Education can be used to integrate the learning of entrepreneurial skills and attitudes with behavior (Middleton, 2010).

From a strategic point of view an educated entrepreneur could easily make correct decisions concerning which markets to enter, what product to produce and the selling prices (Hart, 1992). These decisions invariably distinguish between a high performing and low performing MSE (Hart, 1992). Education and training therefore impinges upon analysis, planning, and control processes of the MSE (Hart, 1992; Njoroge & Gathungu, 2013). Moreover, it will influence the vision, mission, culture, and values of the enterprise (Hart, 1992). Therefore, the level of education and training of the entrepreneur can positively impact the innovativeness, risk taking behavior, concern for results (aggressiveness) and sense of responsibility (autonomy) of the MSEs (Burgelman, 1984; Hart, 1992; Lee, Chang & Lim, 2005). This leads to the following hypotheses;
$H_{1a}$: There is a significant relationship between the level of education and the level of risk taking of the entrepreneurs.

$H_{1b}$: There is a significant relationship between the level of education and the level of innovativeness of the entrepreneurs.

$H_{1c}$: There is a significant relationship between the level of education and concern for knowledge of results by the entrepreneurs.

$H_{1d}$: There is a significant relationship between the level of education and the sense of responsibility of the entrepreneurs.

$H_{2a}$: There is a significant relationship between the level of training and the level of risk taking of the entrepreneurs.

$H_{2b}$: There is a significant relationship between the level of training and the level of innovativeness of the entrepreneurs.

$H_{2c}$: There is a significant relationship between the level of training and concern for knowledge of results by the entrepreneurs.

$H_{2d}$: There is a significant relationship between the level of training and the sense of responsibility of the entrepreneurs.

The entrepreneur’s experience in acquiring, assimilating and utilizing knowledge within and without the MSE also influences entrepreneurial behavior. The ability of the entrepreneur to innovate depends upon past experience. Ordinarily, entrepreneurs abandon those ventures they have come to learn that they bear little returns and focus on those that promise the highest returns for a given level of risk. The MSE’s ability to learn is determined by its knowledge acquired through education and training. The level of innovation of the MSE also influences the experience of the MSE. The experience of the MSE determines its strategic posture and how it rejuvenates itself with time. Therefore, this study setup and tested the following hypotheses:

$H_{3a}$: There is a significant relationship between the level of experience and the level of risk taking of the entrepreneurs.

$H_{3b}$: There is a significant relationship between the level of experience and the level of innovativeness of the entrepreneurs.

$H_{3c}$: There is a significant relationship between the level of experience and concern for knowledge of results by the entrepreneurs.

$H_{3d}$: There is a significant relationship between the level of experience and the sense of responsibility of the entrepreneurs.

2.2 The Resource-Based Theory of the MSE

In the resource-based view of the MSE possession certain strategic resources would influence the entrepreneurial behavior and performance of the MSE (Tsal, 2001). These strategic resources include access to a cheap source of funds or networking capability (Schumpeter, 1933; Timmons, 1999; Tsal, 2001) which, an entrepreneur can utilize to his advantage. However, the relationship between access to credit and entrepreneurial behavior is not clear-cut. Given the assumption of a risk-averse investor it is logical to expect an inverse relationship between risk taking behavior and access to credit. Those entrepreneurs who are high risk-takers would most likely fail to access credit due to the high failure rates among the MSEs. An innovative MSE could easily sell its ideas to the providers of credit. Thus access to credit would be high for MSEs churning out new products and services than otherwise. Innovativeness is also closely related to the sense of responsibility and concern for results (proactiveness). Therefore, entrepreneurs who are proactive could easily access credit compared to those who react to circumstances. Access to credit enables the entrepreneurial MSEs to undertake more innovative activities and thereby increase their experience and revenues. The knowledge base of the MSEs also grows as more experience is acquired. Consequently, the MSEs make better business choices and decisions. Thus this study formulated and tested the following research hypotheses:

$H_{4a}$: There is a significant relationship between access to credit and the level of risk taking of the entrepreneurs.

$H_{4b}$: There is a significant relationship between access to credit and the level of innovativeness of the entrepreneurs.

$H_{4c}$: There is a significant relationship between access to credit and concern for knowledge of results by the entrepreneurs.

$H_{4d}$: There is a significant relationship between access to credit and the sense of responsibility of the entrepreneurs.

One distinction between the endogenous growth theory and knowledge-based theory, and the resource-based theory is that while the former are internally focused the latter is both internally and externally focused. This study examined both internal and external factors and how they combine and influence entrepreneurial behavior. Therefore, the focus was on the relationship between education (ED), training (T), and access to credit (CRD) and experience (EX), on one hand, and the innovativeness (I), risk taking behavior (R), concern for results (K)
and sense of responsibility (S), on the other, using multivariate analysis of variance based on the following models:

\[ R = \alpha_1 ED + \beta_1 T + \delta_1 EX + \gamma_1 CRD + \epsilon_{1t} \]  

\[ I = \alpha_2 ED + \beta_2 T + \delta_2 EX + \gamma_2 CRD + \epsilon_{2t} \]  

\[ S = \alpha_3 ED + \beta_3 T + \delta_3 EX + \gamma_3 CRD + \epsilon_{3t} \]  

\[ K = \alpha_4 ED + \beta_4 T + \delta_4 EX + \gamma_4 CRD + \epsilon_{4t} \]  

The following hypotheses were tested using both the \( t \)-test and the \( F \)-test at 95% and 99% significance level:

\[ H_{5a}: \alpha_i = 0; \beta_i = 0; \delta_i = 0; \gamma_i = 0; i = 1 \ldots 4. \]  

\[ H_{5b}: \alpha_i = \beta_i = \delta_i = \gamma_i = 0; i = 1 \ldots 4. \]  

The results are discussed below.

The conceptual model shown in Figure 1 below was developed using the theories above.

**Figure 1. Conceptual Framework**

The conceptual model shown in Figure 1 below was developed using the theories above.

**Figure 1. Conceptual Framework**

### 3. Research Design and Methodology

This section presents the research design, the population and sample of the study, and the data collected and the data collection instruments. Lastly, there is a discussion of the conceptual and empirical models used in data analysis.

#### 3.1 Research Design

This study employed a descriptive research design. This research design enables the relationships between variables of interest to be analyzed. The aim of this study was to explain the relationship between education and training on the one hand and entrepreneurial behavior on the other. Therefore, the descriptive research design was the most appropriate.

A survey design was employed to capture the relevant data. This was implemented using a questionnaire as the main research instrument. Focus group discussions were also used to collect the data in order to corroborate the responses that were received using the questionnaire. This data triangulation ensured the reliability and the validity of the data that was used to answer research objectives in this study.

#### 3.1 Population

The population of this study consisted of 450 MSEs. The total population was based on the number of plots in the area. There was no list upon which the population could be reliably estimated. There were four main types of businesses considered – manufacturing, trade, construction and services. The population was situated in a densely populated slum area east of Nairobi city in Karasani Division. This area commonly referred to as the Kariobangi South Light Industries provided a suitable context for studying entrepreneurial behaviour among the MSEs.

Kariobangi South Light Industries is a cosmopolitan location with a diversity of small industries that provide a source of livelihood to the inhabitants from diverse ethnic backgrounds. The area has a good supply of electricity but a poor and irregular supply of piped water. The road network is also very poor making transport difficult.
3.2 Data, Sample and Sampling Method
Both qualitative and quantitative data were collected. Data on the level of education, training, business experience, access to credit, risk taking, innovativeness and proactiveness were collected using questionnaires and focus group interviews. Other demographic data on the MSEs were also collected. The research site, Kariobangi Light Industries, is situated in Kasarani Division of Nairobi province. Risk taking was measured by the following three attributes: selling at a loss, selling on credit and overstocking. All these three selling strategies expose the entrepreneur to greater risk of loss in revenues and capital.
Innovativeness was measured by new products or service introduced, or new ways of conducting business by the MSE in a particular line of business. Knowledge of results was measured by record keeping on all types of business transactions that impact on the revenues of the enterprise. Entrepreneurs were also asked if they have any vision, mission (written or otherwise), and established way of doing business unique to it.
The sense of responsibility of the entrepreneur was measured by activities like delegation analysis, planning, and control over the enterprise. The emphasis was on sound running of the MSE with a view to maximizing returns. The level of education and training were measured by the number of years of schooling and training attained, respectively. The experience of the entrepreneur was determined by the number of years that have elapsed since the current venture was started; the number of new business activities engaged in, and business improvement arising from such activities in the past. MSEs were asked to indicate any new ideas introduced into the business from other ventures, not necessarily of the same type. Access to credit was measured by using a Likert scale. Respondents were required to indicate how easy it is to obtain credit from friends and relatives, pawnshops, local cooperatives, micro-finance institutions, or commercial banks. The MSEs were also asked the number of times they have borrowed funds from each source.
The MSEs were categorized into four types: trade, manufacturing, construction and services. The sample size consisted of 170 MSEs. The study applied simple stratified random sampling technique to choose the MSEs surveyed in this study. All the four categories were equally represented in the sample.
4. Data Analysis and Results
The results of the data analysis are presented in this section starting with the summary statistics and ending with the regression analysis results. The results are interpreted in the light of the empirical evidence reviewed above and the unique context within which this research was conducted.
4.1 Summary Statistics
The response rate was 78%. This was quite significant compared to the generally low response rate in survey studies. This high rate was achieved by self-administering of the questionnaires. However, 34 respondents declined to participate due to their concern for confidentiality. There were 69% proprietors and 31% other staff among the respondents. According to gender, 72% were male while 28% were female. Most of the respondents (70%) were over 46 years old. There were only 2% of the respondents with primary level of education while 32% had university level education. Therefore, the majority of the respondents are well educated.
There were 57 MSEs engaged in manufacturing, 51 MSEs in trade, 7 MSEs in construction and 9 MSEs in services. Only 25% of the MSEs had 2 – 5 years of experience. Therefore, many of the MSEs were newly formed (75%).
4.2 Impact of Education and Training on Entrepreneurial Behavior
Table 1 Results of the Impact of Education and Training on Entrepreneurial Behavior in Kenya

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Risk-taking</th>
<th>Innovativeness</th>
<th>Concern for Results</th>
<th>Sense of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>0.023</td>
<td>0.037</td>
<td>0.009</td>
<td>0.037</td>
</tr>
<tr>
<td></td>
<td>(2.673)**</td>
<td>(3.123)**</td>
<td>(3.582)**</td>
<td>(3.451)**</td>
</tr>
<tr>
<td></td>
<td>31.01**</td>
<td>28.34**</td>
<td>32.81**</td>
<td>32.43**</td>
</tr>
<tr>
<td>Training</td>
<td>0.022</td>
<td>0.032</td>
<td>0.011</td>
<td>0.041</td>
</tr>
<tr>
<td></td>
<td>(2.633)**</td>
<td>(3.571)**</td>
<td>(3.965)**</td>
<td>(4.619)**</td>
</tr>
<tr>
<td></td>
<td>21.19**</td>
<td>20.96**</td>
<td>23.17**</td>
<td>24.63**</td>
</tr>
<tr>
<td>Experience</td>
<td>0.025</td>
<td>0.107</td>
<td>0.214</td>
<td>0.134</td>
</tr>
<tr>
<td></td>
<td>(3.116)**</td>
<td>(0.356)**</td>
<td>(4.923)**</td>
<td>(4.824)**</td>
</tr>
<tr>
<td></td>
<td>12.65**</td>
<td>14.71**</td>
<td>13.83**</td>
<td>14.11**</td>
</tr>
<tr>
<td>Access to credit</td>
<td>0.001</td>
<td>0.145</td>
<td>0.132</td>
<td>0.240</td>
</tr>
<tr>
<td></td>
<td>(2.946)**</td>
<td>(4.046)**</td>
<td>(3.46)**</td>
<td>(3.79)**</td>
</tr>
<tr>
<td></td>
<td>12.62**</td>
<td>14.71**</td>
<td>14.56**</td>
<td>12.98**</td>
</tr>
<tr>
<td>F-Statistic</td>
<td>3.732**</td>
<td>4.156**</td>
<td>2.984*</td>
<td>4.312**</td>
</tr>
<tr>
<td>Corrected R-square</td>
<td>0.53</td>
<td>0.62</td>
<td>0.63</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Source: Authors’ computations. The critical values for the t-test and the F-test are 1.65, 2.33 and 2.37, 3.32, for 95% confidence interval and 99% confidence interval, respectively.
The Chi-square test was applied to test the hypotheses and in each case the null hypotheses of independence was invariably rejected. The results are presented in Table 1 in the third row for each model. Therefore, education and training impact entrepreneurial behavior. Furthermore, business experience and access to credit influence the relationship between education and training and entrepreneurial behavior. In addition entrepreneurial behavior variables were regressed against other possible determinants. The results of the $F$-statistic, the $t$-statistic and the value of $R^2$ were noted and are summarized in Table 1. The values in brackets indicate the $F$-statistics, which are all significant at 132 degrees of freedom. The corrected coefficients of determination are above 0.5 indicating that education, training, experience, and access to credit are strongly correlated with entrepreneurial behavior. The results of the $F$-test are significant at both 5% and 1% level. Therefore, the findings of this study indicate that there is a positive and significant relationship between education and training and entrepreneurial behavior among MSEs in Kenya. Unlike Njoroge & Gathungu (2013) and Ndege (1990) whose results show a negative relationship between these variables, this results confirms that the relationship is not only positive (Kisaka & Mwewa) but also statistically at 99% confidence interval. The impact of education and training on entrepreneurial behavior is mediated through their effect on entrepreneurial intentions of MSEs (Ajzen, 1991).

5. Conclusions
In conclusion, there is a strong relationship between the level of education, training, business experience, access to credit and entrepreneurial behavior (risk taking, innovativeness, knowledge of results and responsibility). However, these relationships are asymmetrical. For instance, it was found that low innovators are low risk takers without implying the converse relationships.

6. Policy Implications
These findings have several policy implications. First, education and training increases an entrepreneur’s level of innovation, choice of risks and sensitivity to the business environment. Therefore, MSEs and other stakeholders should consider investing in the education and training of the entrepreneurs. This affects the survival, profitability and competitiveness of the MSEs. Secondly, education and training improves the entrepreneur’s ability to acquire, assimilate and apply already available and new knowledge, within and without the MSE, to improve the survival and competitiveness of the MSE. Therefore, more education and training programs on small business management and entrepreneurship should be introduced in schools and colleges. Thirdly, more experienced entrepreneurs are more likely to be innovative therefore more credit should be given to such MSEs.

References


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