

Determinants of Informal Sector Performance in the Rural Areas of Kenya: Evidence from Makueni County

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ABSTRACT

The general objective of this paper was to investigate the factors that determine the performance of woodwork and metalwork enterprises in the rural parts of Makueni County in Kenya. The results showed that working capital, licensing, competition and the level of education were statistically significant in determination of profits. Based on the findings, it is recommended that the government and other stakeholders should provide both financial and non-financial services at affordable rates to the small business operators and entrepreneurs. Loans in form of money or kind should be made available through relevant lending institutions to supplement the working capital. Seminars and conferences should be held to create awareness to the entrepreneurs of the various incentives and credit facilities provided by the government and other stakeholders. To achieve diversification and reduce the level of competition, the government should advice entrepreneurs on alternative business ventures. The government should also allocate land to the entrepreneurs and establish business parks.

1. INTRODUCTION

Following the International Labor Organization (ILO) employment mission report of 1972, the term *Informal sector* was adopted by policy makers to describe that portion of the urban economy that escapes enumeration in the government's official statistics. Note that the informal sector is defined using several operational definitions or criteria, which include legal status, income level, occupational status and firm size. The criteria used vary from one country (person) to another depending on the sector and activity being studied. Hence, it is hard to use one definition to apply to all cases. As a result, there is no single definition universally acceptable to all as technically competent to include all activities in the sector.

Amongst practitioners, that is, the actual people working in the sector, the term *Jua kali* is popularly used to describe the sector. *Jua kali* is a *Kiswahili* term, which means operating under the sun. It refers to those activities conducted in open sites in which people work wholly exposed to harsh environmental hazards like heat from the sun, rain and dust. The term continues to be used up to now even for activities carried in permanent structures. These activities include: tailoring, carpentry, black smithing, grocery, kiosks, meat and maize roasting, sale of wearing apparel and shoes, open air restaurants, repair of footwear, car repair, shoe-shining, hair-cutting and all sorts of petty trades.

Other names used for the informal sector are: Small-Scale Enterprises (SSEs), which include all firms with 50 workers and below, micro-enterprises which refers to enterprises with 10 workers and below, medium enterprises which refers to enterprises employing 50–99 workers and large enterprises, which refers to enterprises employing 100 and above workers. In the current study, the terms Informal Sector, Small Scale Enterprise (SSE) and Micro and Small Enterprise (MSE) are used interchangeably to refer to the informal sector. In the same vein the terms business, enterprise, firm and establishment are used interchangeably to refer to an economic unit producing goods and services.

The informal sector concept broadly considered may consist of a wide range of activities including any economic unit engaged in the production of goods and services apart from formal ones. Sethuraman (1976) categorizes the informal activities in terms of manufacturing enterprises, construction, transport, trade and services. Each of these categories comprises a wide range of activities which exist both in the urban and rural areas. In Makueni County, the informal sector consists of activities such as carpentry, tailoring, metalwork, motor vehicle repairs, wiring and panel beating, handicrafts, masonry, dress making, gas welding, pottery, basketry, hairdressing, charcoal burning and black smith. In this study, only informal woodwork and metalwork enterprises in Makueni County in Kenya were considered.

For the purposes of this study, an informal woodwork enterprise was defined as any enterprise that manufactures and distributes furniture, wooden art work, storage and packaging materials (chests, crates, racks, shelves), and joinery materials in the construction industry (roofing, flooring, doors, and windows,

pre-fabrications, etc.) with employment level of less than 10 workers. On the other hand, an informal metalwork enterprise was defined as any enterprise that undertakes simple engineering work mostly on sheet metal (containers, utensils, window frames, metal furniture, e.t.c.) with employment level of less than 10 workers.

In an attempt to promote the performance of SSEs, the Kenya government has set up specialized institutions and programs to provide credit facilities, management and technical training, and business advisory services, among other services. In addition, there are multilateral and bilateral donor organizations (e.g. USAID, UNDP) with MSE development programmes operating in the country. However, despite the government's efforts to enhance the performance of the informal sector in Kenya, the sector has been characterized by new firm creation rather than increases in sizes, proliferation (businesses reproducing themselves), and a high level of 'churning' that is, new enterprises starting up and at the same time existing ones ceasing operations (Daniels *et al*, 1995). Republic of Kenya (1999b) found that between 1995 and 1999, 11,360 enterprises closed-down nationwide. This was reflected by the percentage growth in persons employed in the informal sector between 1995 and 1999.

According to Republic of Kenya (2012), the informal sector total percentage growth in the number of employees between 2008 and 2011 was increasing at a decreasing rate. For instance, the percentage growth of persons employed in 2008, 2009, 2010 and 2011 was 5.9, 5.6, 5.2, and 5.1 percent respectively. This gives an impression that sustainability of profits in the informal sector is a problem.

In the rural areas of Kenya, for instance Makueni County, the youth and women funds were involved in awareness campaigns that succeeded to make credit facilities available and accessible to some enterprises to promote establishment and performance of SSEs in 2007. However, the performance of the sector was poor as it recorded an annual growth rate of 3 percent in the 2000s compared to 10 percent during 1974–1979. The sector also generated an average earning per person of only Ksh. 1,200 per month which is low compared to the minimum wage in Kenya of Ksh. 3,765 per month for unskilled employees (Republic of Kenya, 2012). No attempt has been made, so far, to investigate why woodwork and metalwork SSEs are characterized by poor performance in Makueni County in particular. Therefore, this study focused on the significance of the factors that determine the performance of woodwork and metalwork SSEs in the rural areas of Kenya, particularly Makueni County.

2. ROLE OF SSEs IN ECONOMIC DEVELOPMENT

The informal sector plays an important role in income and employment generation, as well as poverty alleviation. In the labour market, the informal sector has emerged as a major source of employment. Available evidence shows that outside agriculture and the public sector, employment opportunities in the informal sector are more than those in the formal wage sector in industry and commerce. For instance, Republic of Kenya (2009, 2012) estimates that the SSEs employed 8,993,400 people countrywide in 2009, compared to 11,475,200 people in 2011 (see Table 2.1)

Table 1: Persons Employed: Recorded Totals, 2006–2011 ('000's)

	2006	2007	2008	2009	2010	2011
Modern Establishments- Urban & Rural areas:						
Wage Employees:	1,857.6	1,909.8	1,943.9	2,000.1	2,059.1	2,127.7
Self Employed and Unpaid Family Workers:	67.2	67.5	67.4	67.5	69.8	75.4
Informal Sector	7,068.6	7,501.6	7,942.5	8,388.9	8,826.2	9,272.1
Total	8,993.4	9,478.9	9,953.8	10,456.5	10,955.1	11,475.2

Source: Republic of Kenya 2009, 2012.

According to Republic of Kenya (1999b), the number of MSEs increased between 1995 and 1999 to about 1.3 million employing approximately 2.4 million people. Informal sector employment was expected to grow at 6.5 percent per annum until 2010, which is more than half as much the rate of growth in formal sector employment (Republic of Kenya, 2009). Although the informal sector has a high labor absorption, it experiences a high turnover of businesses. For instance, Republic of Kenya (1999b) found that 11,360 enterprises closed down between 1995 and 1999 nationwide. This has been reflected by the percentage growth in persons employed in the informal sector which has been on a declining trend.

The informal sector uses less capital and less quality labor to produce a unit of output. The unit of capital invested in this sector therefore makes a relatively larger contribution to Gross Domestic Product (GDP) than the capital invested in other sectors (Ngui, 2008). This sector can therefore be seen to provide one of the solutions to Kenya's ailing economy. For example, Daniels *et al* (1995) found that SSEs accounted for 12 to 14 percent of Kenya's GDP. This increased between the year 1995 and 1999 to approximately 18.4 percent (Republic of Kenya, 1999b). Daniels *et al* (1995), observed that this is in form of returns to the owner and unpaid workers in the enterprise. The growth of the SSEs is also seen as one of the measures to alleviate poverty through creation of income earning-opportunities.

3. LITERATURE ON SMALL-SCALE ENTERPRISES (SSEs)

Onyango (1990) in a study on growth and performance of SSEs in small urban centres analysed the relative importance of different variables in determining income as an indicator of performance. The study used a linear model to estimate the income function, which was formulated as a function of credit, land acreage, maintenance of business records, type of business, and education. The results indicated that performance of SSEs was affected by lack of institutional credit facilities, management skills and competition coming from formal multinational and national companies. Education level was found to be insignificant. Further, total land acreage owned showed not to affect the performance of enterprises implying that shifting of resources between SSEs and agriculture is of no significant value. However, the study noted that agriculture significantly affects growth of SSEs since it is the major source of initial capital for the majority of the enterprises. This was consistent with Ng'ethe and Wahome (1987). Onyango's study is relevant to the present study and almost all the variables will be considered for analysis.

Abuodha (1992) carried out a study on realising optimal growth in Kenyas' informal sector through training and educational paths. The study analysed the effects of education and training policy on the performance of the informal sector through both case studies and statistical cross tabulations. The findings were that vocational training within formal education improves attitudes to manual labour and introduces them as tools used in practice. However, only very high levels of education, those classified as tertiary significantly improve incomes. On comparing the effects of training for tailoring, woodwork, candlework and metalwork, the results indicated that those in tertiary levels of training had higher incomes in both tailoring and woodwork while, those with vocational training and long experience in formal firms proved to be best in metalwork. The study recommended that informal training should be improved and recognized in the educational systems.

Ongile and McCormick (1997) carried a study on barriers to growth among small and medium sized garment producers by estimating an employment size function. The study proxied growth as a performance indicator of the SSEs by the current employment size relating it with initial capital. The study found that over half of variations in the current firm employment were explained by initial capital. Furthermore, other variables viz, entrepreneur's age, education level, ethnicity, availability of credit and diversity, originally believed to be related to the sectors' performance lacked the universal impact of the initial capital. The recommendations were that studies to determine the relative significance of these variables on other SSEs' performance be undertaken, as they were insignificant for garment firms.

Bowen (1997) conducted an empirical analysis on the determinant of rural micro-enterprise growth in selected northern Counties of Rift Valley Province in Kenya. The study specified a business size function using the number of persons employed as a proxy for the business size. The results showed that capital constraint significantly affected business size. The results also showed that as business age, household size and entrepreneur's age increased, the probability of encountering capital as a constraint increased. On the other hand, as number of education years and business size decreased, the probability of encountering constraint also decreased.

Ngui (2008) examined the determinants of informal sector performance in the semi-arid areas of Kenya. The results concluded that working capital, licensing, competition and the level of education were statistically significant in determination of performance of SMEs in the semi-arid areas of Kenya.

4. ANALYTICAL FRAMEWORK AND DATA

4.1 Model Specification

The literature reviewed identifies various performance indicators that have been used to measure the performance of SSEs. This study adopted and modified the profit model developed by Ngui (2008). This is because unlike other performance indicators for instance employment size, sales volume, earnings, employment size, rate of capital increase and management improvement, profits determines excess funds available for the entrepreneurs to plough back into their businesses thus increasing production leading to even higher profits. The firm's profitability determines its ability to bear the costs of finance, labour, raw materials, equipment technology and infrastructure. Profits also help to project cash flows since it indicates the percentage of the amounts due that the business can expect to receive based on past experience.

The unit of analysis was assumed to be a competitive firm, producing all products within the firm and aiming at maximizing profits. Firms are assumed to choose those actions, which have the potential to maximize its profits. The profit function is stated as follows:

$$g_i = \text{Max}(R_i - C_i) \quad (3.1)$$

where g_i is profit of the i^{th} firm, R_i is revenue of the i^{th} firm, C_i is cost of the i^{th} firm and $i = 1, 2, \dots, I$.

Suppose firm i uses X units of j^{th} input to generate Y units of K^{th} output such that;

$$R_i = \sum_{k=1}^K P_{ki} \cdot Y_{ki} \text{ and } C_i = \sum_{j=1}^J W_{ji} \cdot X_{ji} \quad (3.2)$$

Where, P_{ik} is Price of the K^{th} output produced and sold by the i^{th} firm, Y_{ik} is number of units of the K^{th} output produced and sold by the i^{th} firm, W_{ij} is Price of input j used by the i^{th} firm, X_{ij} is number of units of input j used by the i^{th} firm, $j = 1, 2, \dots, J$ and $k = 1, 2, \dots, K$.

Therefore,

$$g_i = \text{Max}(\sum_{k=1}^K P_{ik} \cdot Y_{ik} - \sum_{j=1}^J W_{ij} \cdot X_{ij}) \quad (3.3)$$

If Y^* is optimal output and X^* is optimal input, the profit function will then be expressed as;

$$g_i = \text{Max}(\sum_{k=1}^K P_{ik} \cdot Y_{ik}^* - \sum_{j=1}^J W_{ij} \cdot X_{ij}^*) \quad (3.4)$$

The study postulates a relationship between profit and its determinants. From economic theory, profit is determined by input prices (W) and output prices (P). Input price constitutes all the costs that an entrepreneur incurs when he engages in production. These costs include government regulations and the enterprise attributes. Government regulations include licensing (LIC) whilst enterprise attributes include competition ($COMP$), size of enterprise ($SIZE$), variety of products (VAR), working capital (WC), credit ($CRED$), type of enterprise ($TYPE$) and location of enterprise (LOC). On the other hand, output price will depend on the individual attributes of the entrepreneur. These attributes include education level (EDU), training level (TRA), gender (GEN), age of the entrepreneur (AGE), dependency level (DEP) and experience in the sector (EXP). Equation 3.4 can therefore be modified to include government regulations, enterprise characteristics and entrepreneur characteristics. This can be expressed mathematically as;

$$g = f(LIC, EDU, TRA, AGE, GEN, COMP, DEP, EXP, SIZE, VAR, WC, CRED, TYPE, LOC) \quad (3.5)$$

The variables were defined and measured as indicated in appendix 1

4.2 Data Sources and Sampling Techniques

To achieve the objectives of the study, cross sectional primary data was collected from the entrepreneurs operating in the woodwork and metalwork sub-sectors. The study was conducted in Makueni County, one of the rural semi-arid areas in Kenya. Three divisions namely Wote, Kilome and Mbitini were chosen

randomly from the 14 divisions of Makueni County. From the three divisions, Wote, Nunguni and Emali towns were selected using purposive sampling technique. The population of interest was all the entrepreneurs in Makueni County operating woodwork and metalwork small-scale enterprises. A sampling frame of all entrepreneurs in the three towns was made. Stratified random sampling technique was used to select the sample for interview in the three towns. The use of stratified random sampling technique was justified on the grounds that the population of interest is heterogeneous; hence there is a need to divide the population of interest into non-overlapping elements called strata. First, the population of interest was divided into two strata in each town. That is, woodwork and metalwork enterprises. Proportional allocation procedure was then used to determine the sample size of each stratum which was then selected using a table of random numbers. The study sample was 40 entrepreneurs.

5. EMPIRICAL RESULTS

Prior to regression, all the average profit values were stepped up with Ksh. 6,000 in order to be able to estimate the log-linear model, which cannot be estimated in presence of negative numbers. Regression analysis entailed multiple regressions of all variables and of selected variables using both linear and log-linear models (the results are available on request). Further, a correlation matrix for all the variables in the models was generated to test for the degree of multicollinearity. The results of the correlation matrix showed that the degree of multicollinearity was not high. The Durbin-Watson statistic showed absence of serial correlation. Further, the linear regression results passed both Breusch-Godfrey serial correlation LM and normality tests. However, the results failed the stability test.

In attempting to correct for stability, the most insignificant variables in the linear estimation were omitted. These included: credit, training level, location of business and gender. The results indicate that both linear and log-linear estimations improved in terms of the, measures of statistical reliability of parameter estimates (t-statistics) and the model (F-statistic), measure of goodness of fit (adjusted R-squared), residual and stability tests. On the basis of the coefficient of multiple regression (adjusted R-squared), t-statistic and f-statistic, the regression results indicate that the linear function gave a better description of the relationship between the variables than the log-linear model. However, on basis of the stability and residual tests (except for normality), the log-linear proved more appropriate since its results showed a better fit. Therefore, interpretation of the results was based on the log-linear model (see equation 4.1). The parameter estimates in the log-linear function measure elasticities.

$$\text{Lng} = 6.117 - 0.667 \ln \text{AGE} + 0.119 \ln \text{DEP} - 1.335 \ln \text{EDU} + 0.989 \ln \text{WC} - 0.667 \text{LIC}$$

$$(1.7)^{***} (-1.364) (0.680) (-2.353)^{**} (3.602)^* (-2.146)^{**}$$

$$-0.149 \ln \text{EXP} + 0.094 \text{TYPE} - 0.352 \ln \text{COMP} - 0.073 \ln \text{VAR} - 0.390 \ln \text{SIZE}$$

$$(-1.231)^{**} (0.251) (-1.73)^{***} (-0.273) (-1.308) (5.1)$$

R-squared	0.622	F-statistic	4.764
Adjusted R-squared	0.491	Prob.(F-statistic)	0.001
S.E. of regression	0.621	Durbin-Watson statistic	1.532
Sum squared resid	11.191		

5.1 Stability Test

Ramsey RESET test	F- statistic	0.726
Probability		0.401

5.2 Residual Tests

B-G serial correlation LM test	F- statistic	2.005
	Probability	0.167
ARCH LM test	F- statistic	0.001

Probability 0.978

White Heteroskedasticity	F- statistic	0.794
	Probability	0.687
Normality test	Jarque-Bera	8.63
	Probability	0.012

Note: *,** and ***-significant at 1 percent, 5 percent and 10 Percent level of significance respectively. t-values are reported in parentheses below the coefficient. Any probability value below 0.05 leads to the rejection of the stated null hypotheses. RESET denotes Regression Specification Error Test, B-G denotes Breusch-Godfrey, LM denotes Least Method while ARCH Autoregressive Conditional Heteroskedasticity.

The regression output for the log-linear function shows that the independent variables in this equation explain over 49 percent of the variations in average profits. The F value of 4.76 is significant indicating there is a significant log-linear relationship between the independent variables taken together and average profits per month. The stability test indicated that the log linear results were relatively stable (probability=0.401). With such relatively low stability, parameter estimates are expected to be less precise. Hence care should be taken when interpreting them. The F-statistic (0.726) was statistically insignificant at 10, 5, and 1 percent level of significance indicating absence of mis specification error in the log linear model. The following is a discussion of each variable with regard to sign, significance and possible policy implications.

Working capital was the most statistically significant variable ($t=3.602$) with a positive coefficient as expected. This implies that working capital improves the performance of the small-scale enterprises. The significance of working capital is partly demonstrated by the fact that 67.5 percent of the informants cited lack of finance as their major limitation to expansion of the enterprise. Out of the 40 informants, only 5 percent had received credit facilities.

Licensing was a significant determinant of performance at both five (5) and ten (10) percent levels of significance (a t-ratio of -2.146). This means that the difference between the performance of licensed enterprises and unlicensed enterprises was significant. The coefficient was negatively related to profits implying that license is a cost hence, decrease in average profits. Education level of the entrepreneur was found to be statistically significant at both five (5) and ten (10) percent levels of significance ($t=-2.353$). However, the variable had a negative coefficient of 1.335 contrary to expectations. This implies that most of the entrepreneurs are from lower levels of education (see table 4.6). Infact, although none of the respondents was illiterate, the most learned one was of form four level of education. This was consistent with Oketch (1999) who found that majority of the entrepreneurs were primary school leavers. This implies that those entrepreneurs with higher levels of education have better qualification skills and thus, venture more into formal businesses.

The coefficient of competition was negative (-0.352) and statistically significant at ten (10) percent level of significance (a t-ratio of -1.73). A possible explanation for this is that most of the enterprises concentrated in one area make products of the same type leading to a high competition among themselves through lowering of the output price even if the cost of production is high. Hence, decrease in the revenue leading to decrease in profits. Note that the low output price could be caused by the big enterprises, which produced at a very low cost.

Age of the entrepreneur was statistically insignificant with a t-ratio of -1.363. This implies that the age difference does not vary between the entrepreneurs. The variable had a negative coefficient of -0.667 indicating that as the older one grows, the less profits one makes. A possible reason for this is that as people grow old, they are entitled with other responsibilities, for example, paying school fees and other basic needs. The size of business was statistically insignificant ($t=-1.308$) implying that the number of employees did not vary between the enterprises. Most of the informants had three employees as indicated in the descriptive statistics. The variable was negatively related to profits. A possible explanation for this is that as the enterprise employs more people, the variable costs increase hence, decrease in profits.

Experience was negatively related to average profits contrary to expectation and was statistically insignificant. A possible explanation for this is that most of the entrepreneurs depend on their employees for increase in quality of the products and production rendering their experience insignificant. The results showed that dependency level was statistically insignificant with a t-ratio of 0.679. The variable had a positive coefficient (0.119) contrary to the expectations. This is partially explained by the *Kambas'* tradition of not counting their family members in fear that they might die if counted.

Variety of products was statistically insignificant but negatively related to profits contrary to expectations. This is partly explained by the added cost in preparing an extra product that is not matched by extra revenue earned. The insignificance implies that the entrepreneurs make and sell relatively the same number of different products. The type of business was an insignificant factor in determination of profit. This means that the difference between the performance of metalwork and woodwork enterprises is not significant. The implication is that in both enterprises can be operated in Makueni County.

6. POLICY RECOMMENDATIONS

On the basis of the study findings, the following policy recommendations arose. Loans in form of money or kind should be made available through relevant lending institutions to supplement working capital. This should be offered to all small enterprises, inclusive start-up businesses, without the rigorous requirements associated with credit such as land collateral. Instead, loans should be offered with minimum security, longer repayment periods and low interest rates. Items of value such as television sets, radios and even bicycles should be acceptable. This is because most of the entrepreneurs do not have the security required by the lending institutions. This will make the loans affordable to the entrepreneurs.

However, the entrepreneurs should form organizations in which they can be helping one another to raise the minimum security required by the micro-financial institutions. This is usually done through merry-go-round activities within the organization members.

Apart from providing credit facilities to the small business operators, the government, donors and other stakeholders should offer other banking services like savings account which are easy to operate. For example, the co-operative bank of Kenya offers a saving account named *Haba na Haba* that is flexible and easy to operate. To open this account, one requires a minimum amount of Kshs. 1000. There are no charges and commissions when operating this account. In addition, withdrawals and deposits should be made as many times as required. On the other hand, entrepreneurs should be taught strategies of saving the money they earn from the business daily, for example, putting a certain amount of money in a sealed tin daily or weekly for a minimum of one year without opening it. This would enable them save money to use as security when borrowing loans and / or reinvest in order to increase production.

From the survey, it was found that most of the informants were not aware of the existence of various incentives and credit facilities provided by the government, donors and other stakeholders. It is recommended that awareness campaigns through seminars and conferences be held to inform the entrepreneurs of the government, donors and other stakeholders' activities, and how they can get in contact with them. Handouts should also be given to the entrepreneurs for further details about the lending institutions. This will enable the entrepreneurs know which institution to approach for financial and/or non-financial support.

The study revealed that woodwork and metalwork enterprises encompass both small and big investors. To protect the small enterprises from big investors, the market should be expanded and standard price be set by the government for the products sold in the market. This would enable the small entrepreneurs have a wider market of selling their products at an appropriate price. The government should subsidize the small enterprises advertising costs to enable them meet the advertising costs. On the other hand, the entrepreneurs should increase the number of different products made and sold in their enterprises in order to capture a wider market. These products should be made attractive for example, through differentiation and making the most recent designs according to the needs of the market.

Frequent droughts experienced in the County necessitate the laying off of labourers from the farms during such periods. Most of the labourers who are laid off usually remain unemployed until the next rainy season when labour is required for cultivation and during harvest time.

Therefore, sales are sensitive to seasonal variations since most of the customers come from within the County and are affected by the change of weather. To keep the market/flow of sales steady, the government should help the entrepreneurs create links with markets within and outside the County through ensuring that the entrepreneurs participate in trade fairs and exhibitions both locally and abroad.

Entrepreneurs should be taught business management skills and in particular, book-keeping skills. Book-keeping skills courses will enable the entrepreneur record any transactions made on a daily basis. In addition to the business management skills, practical training courses should be offered to improve on the already acquired skills. These courses should be offered at places accessible to most of the small business operators at affordable rates.

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APPENDIX 1: VARIABLES USED IN THE STUDY

Profit (*g*): This is the dependent variable in the analysis. It is the difference between the revenue a firm receives and the costs that it incurs.

Price of output (*p*): This is the unit value of the final good produced by the enterprise. It was measured in Kenya shillings (Kshs).

Price of input (*w*): This is the price of inputs. Inputs included labour, capital, electricity, raw materials, land (space), among others.

Licensing (*LIC*): This is a proxy for the legality of business and was captured by use of a dummy. Licensed enterprises took the value of one and zero if otherwise.

Educational level (*EDU*): This is the education level attained by the entrepreneur. It was measured by the number of years spent in formal schooling.

Training level (*TRA*): This is the level of skills an entrepreneur has attained after formal schooling. It was measured by the number of months spent in training.

Age (*AGE*): This is the age of the entrepreneur. It was measured by the number of years completed since birth.

Gender (*GEN*): This is the sex of the entrepreneur. It took the value of one if male and zero if otherwise.

Competition (*COMP*): This is the number of entrepreneurs in a given walking distance (at most one kilometer) who produce products of the same type.

Dependency level (*DÉP*): This is the number of persons who depend on the entrepreneur for their livelihood.

Experience in the sector (*EXP*): This is the period of time (in years) an entrepreneur has been involved in production and or in a related field.

Size of enterprise (*SIZE*): This size of the enterprise was measured by the number of workers employed in the enterprise (owner inclusive).

Variety of products (*VAR*): This is the number of different metal (wood) products sold in the enterprise.

Working capital (*WC*): This is the expenditure on things bought by the entrepreneur to generate profit. It was proxied by total expenses per month. Expenses included wage, electricity, and raw materials, among others.

Credit (*CRED*): This is the form of financing the enterprise. This involved the use of a dummy variable taking the value of 1 if an entrepreneur has borrowed / received money and / raw materials in the previous year and zero if otherwise.

Type of enterprise (*TYPE*): This refers to businesses having the same characteristics. A dummy variable was used taking the value of 1 if woodwork enterprise and zero if otherwise.

Location of enterprise (*LOC*): This is the site of the enterprise. It took a value of 1 if in commercial areas and zero if otherwise.