Production Management Procedures and the Growth of Jua Kali enterprises in Kenya

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Abstract: The Micro and Small Enterprises play an important role in the economic development of most countries globally despite their level of development. The sector act as vehicle for low-income people to escape poverty through market-driven productive activities for growth of the economy. Consequently, their role and consequence of economic development have become a major research area in developing countries like Kenya. Studies have been conducted highlighting the limitations on the growth of micro-enterprises with a view to bringing to the solutions without success. Most enterprises' growth stagnates and eventually flop after some time due to lack of management abilities by most entrepreneurs/managers. As a result, there was a need to review the production management procedures that affect the growth of Jua Kali enterprises. The objective of this study was to Evaluate the Production Management Procedures on the Growth of Jua Kali Enterprises in Kenya. The study adopted a cross-sectional research design. The target population was 210 entrepreneurs/managers of micro-enterprises registered under Jua Kali association. The primary data was collected using a structured questionnaire. The data was analysed using both descriptive and inferential statistics with the help of the SPSS 20. Linear regression analysis was employed to determine the degree of relationship between the Production Management Procedures and enterprise growth. The result showed that Production Management Procedures had a strong positive relationship on the growth of Jua Kali enterprises with a Pearson correlations coefficient (r) of 0.656 at 95 percent significance level (p=0.007). The study concluded that Production Management Procedures has influences on the growth of microenterprise, hence the need for entrepreneurs/managers to embrace appropriate management practices to grow businesses that spur the economy of the country.

Keywords: Employment Creation, Production Management Procedures, Jua Kali Enterprises Growth

1. Introduction

The Micro and Small Enterprises (MSEs), play an important role in economic development of most countries globally despite their level of development (Nketsiah, 2018). Kenya is no exception as highlighted by Kenya's Sessional paper number 2 of 2005 on development of MSEs for wealth and employment creation for poverty reduction (Republic of Kenya, 2005). SMEs in Kenya are categorized as informal sector which seeks to transform Kenya into an industrialized middle-income country, providing a high-quality life to all its citizens as envisaged in the vision 2030 (Republic of Kenya, 2012). The SME sector has therefore been identified and prioritized as a key growth driver for achievement of this Vision. Mullei and Bokea (2000) observed that Micro enterprises make a major contribution to aggregate employment, production, and national income in Kenya, beside some constraints that hinder their participation in the global markets.

Micro, and Small Enterprises (MSEs) has a wide range of definition globally. When defining MSEs, countries and businesses often use their own judgement, using asset value of the enterprise, number of employees, and annual turnover (Sitharam & Hoque, 2016). In Kenya, microenterprises are referred to as Jua Kali enterprises. Maundu (1997), defines the term Jua Kali as the name derived from two Kiswahili words ‘Jua’ meaning sun and ‘Kali’ meaning hot which is synonymous with micro enterprise. In this definition, a Jua Kali enterprise does not include newspaper venders, vegetable sellers and those running shops or kiosks. This study used micro-enterprises and Jua Kali enterprises interchangeably. In addition, the Growth of Jua Kali enterprise was measured in terms of realization of increased employment, increased capital, diversification in production, creation of more market, and increased sales.
In view of the number of employees, SMEs include all enterprises employing between 1 and 50 employees, as defined by the National and Small Enterprise Baseline Survey of 1999 (Republic of Kenya, 2010). The Sessional paper number two of 2005 on development of MSEs for wealth and employment creation for poverty reduction also adopted the same definition. In practice, most Jua Kali/micro enterprises employ less than ten employees while the majority of the enterprises, employ less than five (Kibera, 2000). For the purpose of this study, the researcher categorized Jua Kali enterprises as micro enterprises that employ a maximum of ten employees, Small-scale enterprises employ from 11 to 50 employees, while other medium and large enterprises employ 51 and above. Similarly, the research follows the definition implemented by the World Bank in 2005 which classified Micro, Small and Medium Enterprises (MSMEs) by the number of employees in three groups: micro enterprises have up to 10 employees, small-scale enterprises up to 50 employees, medium-sized enterprises up to 300 employees.

Micro enterprises are also an important vehicle for low-income people to escape poverty through market-driven productive activities. The sector contributes to the national objective of creating employment opportunities, training entrepreneurs, generating income and providing a source of livelihood for the low income in the country accounting for 12-14 percent of GDP (Ngugi, 2012). According to economic survey report of 2015, MSEs offered over 14 million employment opportunities to Kenyans which accounted for 24.6% of the country's national output (Republic of Kenya, 2015).

Every year, about 500,000 people join the labour market annually, whereas approximately 75 percent end up in informal sector or remain jobless. It is estimated however, 80 percent of the MSEs fail within their first year through the third year due to problems related to business procedures according to the Baseline survey of 1999 (Republic of Kenya, 2001). Three out of five micro enterprises are presumed fail within the first few years of operations. However, some graduate from one level of enterprise to the other (Kahando, Maina & Maina, 2017). Numerous research on challenges facing micro-enterprises cite lack of planning, improper financing and poor management as main cause of failure of growth of small business in Kenya (Longnecker et al., 2006; Kahando et al., 2017). A simple management mistake is likely to lead to death of the enterprise (Kings & McGrath, 2002). While the government of Kenya has put good policies in place, it is imperative to note that entrepreneurs do not take the challenges to produce goods of high quality, hence their goods are rejected in preference for high quality goods (Kibas, 2012). For the entrepreneur, the essence of a product is to meet the need of the customer in term of quantity and quality.

1.1 Statement of the problem

Kenya, like most nations in the world, micro and small enterprises (MSEs) play significant role in economic development in spite of their level of development. MSEs act as main vehicle for low-income people to escape poverty through market-driven, productive activities for growth of the economy. In addition, various studies have been conducted underlining the limitations on the growth of micro-enterprises with a view to bring to the solutions without success (Wiklund, et al., 2009). Additional studies on growth have even been conducted with a view to unearth the solutions, but MSEs growth still stagnates and ultimately fail (Krueger, 2000). It is against this background, that the researcher conducted further research on production management procedures as a function of services and products which determine growth of micro enterprises/ Jua kali enterprises.

1.2 Objective of the Study

The objective of the study is to evaluate the Production management procedures that determine growth of Jua Kali enterprises in Kenya

1.3 Conceptual framework

A conceptual framework is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate the same (Kombo & Tiromp, 2006). The research conceptual framework was based on production procedures, which creates the product/service (Jay & Barry, 2004).
The study conceptualized that the growth of the enterprise depends on the entrepreneur/manager’s effectiveness and efficiency in managing the enterprise while focusing on productions of the business management functions. By realizing maximum performance, the enterprises would create more employment, increased capital, diversify in production, create more market, and increased sales. The conceptual framework shows the relationship between independent variable and the dependent variable as shown in figure 1.

2. Literature Review

2.1. The Growth of Jua Kali Enterprises

The MSEs/Jua Kali enterprises (JKEs) play an important role in the Kenyan Economy. According to the Economic Survey (2019), the sector contributed over 50 percent of new jobs created in the year 2018. Most MSEs are owned by young people who have highest growth expectations and have positive effect on growth (Navaretti, 2014); (Wakkee et al. 2015). However, despite their significance and expectations, they are faced with the threat of failure, where, three out five enterprises fail within the first few months of operation (Kahando, Maina & Maina, 2017). These challenges threaten the growth of enterprises. Hence the need therefore for strategies by the stakeholders to take the responsibility to revitalise growth of micro enterprises.

According to Harris and Gibson (2006), Growth of small scale enterprises depends on the changing industry patterns and management and the strategic decisions taken by the entrepreneur/manager. Kibera (2000); Kolstad and Wiig (2015) reiterate that micro and small scale enterprises are engaged in a number of business activities characterized by the economic and political environment existing in the country. Despite the prevailing constraints, Jua Kali enterprises still remain the driving force of economic growth, job creation and poverty reduction in Kenya. Micro enterprises world over, have been the means through which accelerated economic growth and rapid industrialization have been achieved (Harris & Gibson, 2006).

The main findings by Cook and Nixon (2005) indicate that growth and development of micro enterprises in developing countries were mainly inhibited by access of finance, poor managerial skills, and lack of training opportunities and high cost of inputs. MSEs are generally distinguished by the nature of their production and management arrangements, trading relations, financial practices and internal competences. They are characterized by; Small units often rural-based and family owned; small independent enterprises; stand alone and producing for a well-defined market; low capital formation; flexible and often small production runs; relying on low cost raw materials; low energy costs; low labour costs; low division of labour and largely labour intensive units with low-level technologies.
Starting and operating a micro enterprise includes a possibility of success as well as failure. Cook and Nixon (2005) indicate that Lack of planning, improper financing and poor management have been the main causes of failure of small enterprises. However, Anderson, Dodd and Jack (2010) observe that the health of the economy has a strong relationship with the health and nature of growth of micro and small enterprise sector. When the state of the macro economy is less favorable, by contrast, the opportunities for profitable employment growth in micro enterprises are limited.

The characteristics of micro enterprises are such that most of them, involve only the entrepreneur as the manager, some family member(s) and at the most one or two paid employees, hence most enterprises have less than ten employees. Most of enterprises have a limited capital base and only basic technical or entrepreneurial skills among their operators. Cook and Nixon (2005) indicate that most micro enterprise lack basic data on management which hampers any attempts to undertake serious empirical work on measuring the characteristics of small scale enterprises and explaining the behavior of these enterprises.

In Kenya, Jua Kali enterprises faces unique challenges, which affect their growth and profitability and hence diminish their ability to contribute effectively to sustainable development (Kahando et al., 2017). Some of the challenges include; Lack of managerial training, technical skill and experience. The typical entrepreneurs/managers of the micro businesses develop their own approach to management through trial by error. As a result, their management style is more concerned with day to day operations than long term issues, and more opportunistic than strategic in its concept. Education and skills are needed to run micro and small enterprises growth in two criteria, employment and sales. (Wiklund, et al., 2009). However, this study measured growth on the improvement in sales, Increased capital, more employment opportunities, product diversification and expanded market.

2.2 Production Management Procedures and the Growth of Jua Kali Enterprises

Management in business is about using resources efficiently and effectively in order to meet the objectives of the enterprise (Stokes & Wilson, 2006). This study applied the theory of production which posits that Production uses resources to create goods or services that are suitable for use or exchange in a market economy which includes, manufacturing, storing, shipping and packaging. However, this study concentrates on manufacturing. The definition of Production therefore refers manufacturing as the sequence of operations that transform inputs into goods or services as output. According to Fred (2001) manufacturing operations transform or convert inputs such as raw materials, labour, capital, machines and facilities into finished goods or services. The production function formalizes the relationship between the quantity of output yielded by a productive process, and the quantities of the various inputs used in that process. The production function therefore, is essential to Micro Enterprises to determine how much output they should produce given the price of a good, and what contribution of outputs they should see to produce given the price of capital and labour.

2.2.1 Operation Procedures Applied by Jua Kali enterprises

Operations procedures are the set of activities that create value in the form of goods and services by transforming inputs into outputs. Studies have shown managerial skills in the form of operational managerial requirements like production, marketing, finance and human resources as the most significant constraints faced by small enterprises (Garikai, 2011). The activities of creating goods and services take place in all business enterprises. In every manufacturing firm like J Kes, the production skills are necessary, given the various production and operational activities that produce quality products that meet the market demand. In JKEs, where inputs are converted into outputs, different goods may require different production processes.

Majority of the enterprises use customization as a type of production procedure, where each product or service is produced according to the specific needs or wants of individual customers. Kooznts and Wihrich (1998) felt that it does not follow that the enterprise owner always has expertise in all aspects of business, but many enterprises kick off because the initiator have an outline of the technology and the production or operational aspect of products.
The previous researchers show that success or growth of small enterprises has focused primarily on the personality attributes of entrepreneur/manager (Wijewaardena & Tibbits, 1999). Though, entrepreneurs make the backbone of the economy and the government’s good policies put in place, if the entrepreneurs do not take the challenges to produce goods of high quality, their enterprises will not survive since their goods will be rejected in preference for high quality goods in the market (Kibas, 2012).

2.2.2 Technology Applied by Jua Kali Enterprises

Most JKEs have largely been using old outdated equipment in their production, as a result, it has been very difficult to compete with large enterprises which are able to acquire the latest technology (Ngui, 2012). Use of cheap technology is associated with high cost of production that results to low comparativeness and competitiveness. Majority of JKES lack adequate hand tools, equipment and machinery which make their production process slow hence the rate of production (Garikai, 2011). This level of technology makes JKES not able to compete with large enterprises that benefit from economy of scale. According to Indarti and Landenberg (2004), most MSE’s operate along traditional lines of production, where lack of equipment and use of outdated technology are among the hindrance in MSE’s growth. The JKEs therefore need modern technologies in the production process to produce quality products that meet the market standards, which constantly attract modern customer changing needs, wants and taste.

3. Research Methodology

This section, focused on the methods used to collect and analyse data, which was subsequently applied to assess production management procedures that affect the growth of Jua Kali enterprises in Murang’a.

3.1 Research design

The philosophical paradigms of positivism that guides social science research is adopted in this study. The positivist paradigm is a research alignment which assumes that a useful research is based on theory, and quantitative data (Veal, 2005; Newman 2008). As such, since the current research is based on theory and quantitative data, the study adopted philosophical paradigms of positivism or quantitative approach which involved data collection and the analysis of numerical data (Veal, 2005). The study used cross-sectional survey design. In a cross-sectional survey, data is collected at one point in time from a sample to depict the population (Creswell, 2009). This survey design allows differentiating responses in a systematic and standardized way. The study adopted the descriptive research design to assess the efficiency and effectiveness of Jua Kali enterprises operations on the growth in regards to production management procedures.

3.2 Target population

The term target population refers to the group of individuals, objects or items that have at least one thing in common from which samples are taken for measurement (Kombo & Tromp, 2006). The target population of the study comprised 210 entrepreneurs/managers registered under Jua Kali Pioneer Association in Murang’a county.

3.3 Sample Size and Sampling Technique

Stratified random sampling was used as the most appropriate sampling technique to determine the study sample size since the population was not a homogeneous group. This type of sampling technique ensures that the sample accurately reflected the population on the basis of the criteria used (Kothari, 2009). The population had six sub-population (strata) distributed between six manufacturing trade areas comprising; the Motor Vehicle Mechanics 88, Metal Fabricators 53, Panel Beaters and Upholstery 35, Carpentry and Joinery 24, Dressmaking and Tailoring 5, and Motor Spare Shops and repair works 5. To establish the sample size, respondents from each sub-population (stratum) were selected, Nassiuma (2000) formula was used; 

\[
n = \frac{N \times (\text{Cv}^2)}{\text{Cv}^2 + (N-1) \times \text{e}^2}
\]

Where

- \(n\) = sample size
- \(N\) = population (210)
- \(\text{Cv}\) = coefficient of variation (take 0.5)
- \(\text{e}\) = tolerance of desired level of significance (take 0.05) at 95 % confidence level

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\[ n = \frac{210 \times (0.5^2)}{0.5^2 + (210-1) \times 0.05^2} = 69.79428 \]

For convenience, sample size \( n \) was rounded to 70. Mugenda and Mugenda (2003) affirm that 30 percent of the population can be used to determine a representative sample size of the whole population. To obtain the desired sample size from each stratum, stratified sampling formula was used \( i = n \left( \frac{N}{P} \right) \) (Kothari, 2009).

Where: \( i \) are the number of respondents in the stratum to be sampled, \( n \) is the sample size, \( N \) is the population of the specific stratum, \( P \) is the population. The sample size of each stratum was calculated using the formula \( i = n \left( \frac{N}{P} \right) \), table 1.

**Table 1: Distribution of Sample Frame**

<table>
<thead>
<tr>
<th>Business Areas</th>
<th>Size of Stratum (N)</th>
<th>Sample Size ( i = n \left( \frac{N}{P} \right) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor vehicle mechanics</td>
<td>88</td>
<td>29</td>
</tr>
<tr>
<td>Metal fabricators</td>
<td>53</td>
<td>18</td>
</tr>
<tr>
<td>Panel beaters &amp; upholstery</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td>Carpentry &amp; Joinery</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Dress making &amp; Tailoring</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Motor spare shops and repair</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>210</td>
<td>70</td>
</tr>
</tbody>
</table>

3.4 Data Collection and Administration

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic approach that enables one to answer stated research questions, and evaluate outcomes (Cooper & Schindler, 2003). The researcher administered the questionnaires to entrepreneurs/managers of Murang’a Jua Kali enterprises through drop and pick method to their respective business sheds/working place for the purpose of collecting data.

3.5 Data Analysis and Presentation

The study employed quantitative research method to analyze the primary data from the respondents through a structured questionnaire. The secondary data were used to confirm survey results through statistical reports and research findings from other researchers. The data collected in the study pertaining to the objective was analysed using descriptive statistics with the help of the Statistical Package for Social Sciences (SPSS) 20 software which offers extensive data handling capabilities and numerous statistical details as highlighted (Muijis, 2004).

In order to determine the relationship between the independent variable and dependent variable, Pearson correlation coefficient was used to show how each independent variable relates with the dependent variable, while linear regression analysis was employed to determine the degree of relationship between the variables. The general regression equation model was used to describe how the mean of the dependent variable changes with changing conditions independent variable in the form \( Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_i X_i + \epsilon \). The regression equation model was used to describe how the mean of the dependent variable changes with changing conditions independent variable in the form \( Y = \beta_0 + \beta_1 X_1 + \epsilon \). Where, \( Y \) is a responsive variable that represents Enterprise Growth (EG), \( X_i \) represents the explanatory variables, the Production Procedures (PP), and \( \epsilon \) represents the error term of the model. To compute the relationship between the independent variable and the dependent variable on the relationship, the study was guided by the equation; \( EG = \beta_0 + \beta_1 PP + \epsilon \) .... (1)

3. Discussion and Findings

Among the 210 sampled respondents, 70 were served with the questionnaire, 50 managed to fill and returned, yielding to a response rate of 71.4 percent which was acceptable for analysis (Mugenda & Mugenda, 2003). On the trade areas, findings show that motor vehicle mechanics dominated Jua Kali enterprises with 44 percent, while...
Steel Fabrication and panel beating was second and third highest with 28 percent and 18 percent respectively. These trade areas were popular due to the number of customers who require those services. The results indicated that motor vehicle mechanics, Steel Fabrication and panel beating require very little operational costs since the customer buys the spares and the raw materials required and the owner only charges the labour.

The results revealed that wood work and clothing had 6 percent and 4 percent respectively, were the least popular compared to other trades. This was attributed to the nature of production procedures, where, the owner requires capital to buy raw materials and modern technology to be proficient in production, which was not the case. This resulted to poor production of goods and services that could not meet the customers' satisfaction. The customers therefore prefer the imported products which are cheaper to wood work products. A similar scenario in clothing, customers go for second hand clothes (mituba) which are cheaper and convenient than new to fit clothes. In support, Cook and Nixon (2005) point out that growth and development of micro enterprises in developing countries were mainly inhibited by access of finance, poor managerial skills, and lack of proper production tools and equipment and high cost of inputs.

On production, the finding showed that 90 percent of the respondent used old and outdated hand tools as the major method of production; while the rest 10 percent used both hand tools and machine hand tools for the production of goods and services, which were also insufficient and inefficient. These findings were confirmed by Ngui (2012) who found that most micro enterprises have largely been using old outdated equipment in their production processes. A similar study by Garikai (2011) indicated that lack of contemporary hand tools, equipment and machinery slow the rate of production and compromise the quality of products. There is need therefore for micro enterprises to acquire the latest technology in production procedures for effectiveness and efficiency to compete favorably with large enterprises.

**Correlation Analysis Between Production Procedures and Enterprise Growth**

The study in this section, sought to test the relationship between Production management procedures and the effect on the growth of micro enterprises using correlation coefficient. The results indicate that the independent variable has a descriptive power of the dependent variable as shown in table 2.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Growth of Enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production management procedures</td>
<td>0.656</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>0.007</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>50</td>
</tr>
</tbody>
</table>

The result of the relationship between production management procedures and growth of the enterprise show that production management procedures had a strong positive significant relationship on the growth of *Jua Kali* with a Pearson correlations coefficient (r) of 0.656 at 95 percent significance level (p=0.007), as shown in table 2. This shows that a unit of the level of operation of production management procedures results to 65.6 percent changes in the enterprise's growth.

**Regression Analysis Between Production Procedures and Enterprises Growth**

In order to show how the production management procedures affect the growth of *Jua Kali* enterprises in Murang’a, alinear regression was computed to test the strength of relationship between the two variables. The enterprise growth became the dependent variable and production procedures as the independent variables. The Regression model equation was used to describe how the mean of the dependent variable changes with changing conditions in the form $Y = \beta_0 + \beta_1 X_1 + \epsilon$

Where:
- $Y$ = Growth of *Jua Kali* enterprises
- $\beta$ = constant coefficient;
- $\beta_1$ = Regression Coefficient of Production management procedure (PP)
- $\epsilon$ = standard error term
The explanatory variable used in this study was production procedures (PP) and dependent variable enterprise growth (EG). The regression equation thus summarized; EG = \beta_0 + \beta_1 PP + \varepsilon, explained as EG = 0.512 + 0.607 PP + \varepsilon (Table 3).

5. Conclusions

The objective of the study was to evaluate the production management procedures on the growth of Jua Kali enterprises in Kenya. Studies have been conducted highlighting the constraints which affect the growth of micro-enterprises with a view to bringing to light the solutions but with no in-depth (Wiklund, Patzelt, & Shepherd, 2009). Based on the finding it was conceivable to conclude that production management procedures had a strong positive significant relationship between the growths of Jua Kali enterprises. Though there was a positive significant relationship between production management procedures and a measure of enterprise growth, most of the entrepreneurs/managers of the enterprises have challenges in production management skills, especially in production processes and technology which are unfavorable to the growth of Jua Kali enterprises. It can therefore be concluded that use of cheap technology and old outdated equipment result to high cost of production, low comparativeness and competitiveness which are unfavorable to the growth of Jua Kali enterprises. It can therefore be concluded that use of cheap technology and old outdated equipment result to high cost of production, low comparativeness and competitiveness which are unfavorable to the growth of Jua Kali enterprises. The current level of production procedures and technology makes JKES not able to compete with large enterprises that benefit from economy of scale. With the acquisition of modern hand and electrical hand tools, equipment and machinery, continuous skill development and an improvement in technology on manufacturing procedures would lead to the growth of the enterprises.

6. Recommendations

Based on the findings, it was recommended that in order to improve on the performance of Jua Kali enterprises, first, the government come up with support programs that assist owners in acquisition of modern hand and electrical hand tools, equipment and machinery through affordable loaning programs. Second, through the Universities and Technical Vocational, Education and Training Institutions (TVET) conduct training need assessments survey to identify and train the entrepreneur/manager of enterprises in the specific areas of deficiency that spur growth considering that SME sector has been identified and prioritized as a key growth driver for accomplishment of the Kenya’s Vision 2030.

References