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Authors’ contributions

This work was carried out in collaboration among all authors. Author EUO designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors KB and HAY managed the analyses of the study. Authors MCO and JCI managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

Human capital has long been argued as a critical resource in most companies for sustaining development of business productivity. The study empirically determined the effect of human capital resource capacity on sustainable increase in productivity of agro-allied small businesses in Nigeria. The instrumentality of this study is the research questions structured in a five-point likert scale. The Linear Regression Analysis used to test the hypotheses. Statistical Packages for Social Sciences (SPSS) was used to aid the data analysis. The study discovered that human capital has positive and significant effect on sustainable increase in productivity of agro-allied small businesses in Nigeria. The study recommended education the small business entrepreneurs on the benefits of equity financing as a viable option towards business growth and expansion.

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1. INTRODUCTION

1.1 Background of the Study

[1] opined that human resource activities have the capacity of contributing to sustainable competitive advantage in organisations. Competitive advantage in organisations is identified with the concepts of rareness, inimitability, value, and non-substitutability. Organisations may use three resources: physical, human, and organisational, to achieve sustained competitive advantage in their industry (Eikwu, 2018). The physical capital and organisational capital have proven to be duplicable by competition and less likely sources of inimitability. Inimitability is a prerequisite of competitive advantage. Human capital is the organisation’s intangible assets comprising all the competencies of the employees within an organisation. The competencies are various skills, education, experience, potential and capacity. If a company know how its human capital contributes to their success, then it can be measured and managed effectively [2]. Human capital as an organisation’s main strategic resource has the potential to be inimitable because each employee had the ability to contribute in a unique way. The concept of inimitability is related to the theory of human free-will. The capability of contributing in a unique way allows human capital linkage with the resource-based view. When an organisation’s internal resources are inimitable, they can contribute to, and help to maintain a sustainable competitive advantage [3]; [4].

The human resource function when allowed to contribute to organisation strategy has the potential to improve organisation performance [1]. Human capital has long been argued as a critical resource in most companies and recent research [5], suggest that human capital attributes like, education, experience and skills and the effect of entrepreneurship affect the firms’ performance”. The human element has grown in importance because knowledge has become a critical ingredient to gain a competitive advantage, particularly in the new economy landscape [6]. Also, employees are the most valuable asset an organisation possessed to increase organisational competitiveness [7], if managed strategically. Strategic human capital capacity has the ability to link productivity with sustainable organisational performance. Core assets of existing organisations are not buildings, equipment nor their finances but the people who work in them.

The strategic importance of human capital is more pronounced in human capital intensive industries. These industries including financial organisations require access to knowledge to perform their functions [8]. Employees in service organisations collectively, can be sources of competitive advantage. [9] supported [10] compared physical capital, organisational capital and human capital potentials for achieving sustainable and substantial contribution to competitive advantage in service organisations. [11] later expanded the concept stating that focus should not only be on the behaviour of human capital input but on the skills, knowledge, attitudes, and competencies that people brought to the organisation. These skills can enhance organisational competitiveness and growth when combined with firm-specific training programs.

The performance of human capital in SMEs is mostly influenced by the ability of the strategic entrepreneur in formulating and implementing the human capital policies. The entrepreneur that generates, vision, motivates, inspire and fascinate peoples they transform them to achieve long term objective. The entrepreneurial leader of any SME, should be able to create, unity, pride and ownership in the people, so that they may be able to give maximum performance. Human capital, if managed properly, can create value for the firm in the shape of increased revenue, improved customer satisfaction, enhance quality of the product and services, increase productivity and reduce cost. This statement suggests that the human factor can increase the value of the firm and value produce competitive advantage.

It is important for strategic entrepreneurs to obtain knowledge about the situation of the human capital in or out of the organisation; this would help them to make successful and competitive decisions regarding hiring, development and retaining the human capital. The entrepreneurs may conduct SWOT analysis for the determination and assessment of the human capital. The human capital policies analysis and practices should be scrutinized regularly for the any modification to match the competitive environment. The changes in the procedure and application of human capital
Sustainable development of any firm, more especially SMEs in the agricultural value chain systems, largely depends on the quality of skills and competencies of its human capital. To achieve this, entrepreneurs and the engaged employees in the value chain [12], states, should possess Managerial and general competencies: familiarity with the business area, management skills of planning, organising, directing, and controlling of personnel resources and processes to achieve set objectives and goals; Financial Competencies: adequate knowledge of available sources of finance, investment understanding, knowledge of accounts recording and financial statement interpretation; Marketing competencies: understanding of market trends, market research, promotional skills and customer satisfaction needs; and basic technical competencies.

1.2 Statement of the Problem

Over the last two decades, owing to the rapid and steady decline in strategic and creative thinking, decline in proper decision making by entrepreneurs and policy makers, and the absence of the capacity of small business owners to simultaneously exploit opportunities innovatively to create competitive advantage for business sustainability, emphasis in entrepreneurship literature has centred on basic managerial skills for entrepreneurs; later came the advocacy for accounting skills needed to boost entrepreneurial competencies. However, reports of high rate of business failures owned by entrepreneurs with adequate funds, accounting and managerial abilities calls for further investigations. A review of extant literature showed relationship between production capabilities and development of small-scale manufacturing enterprises [13]; entrepreneurial skills in resource acquisition strategies and profitability of SMEs [14]; however, there is no available literature within the strategic entrepreneurship management construct, focusing on resource mobilisation capacity as it affects productivity of agro-allied small businesses in Nigeria.

1.3 Objective of the Study

This study empirically determines the effect of human capital resource capacity on sustainable increase in productivity of agro-allied businesses in Nigeria.

2. LITERATURE REVIEW

2.1 Conceptual Framework

Intellectual (Knowledge) and human resources according to [15], stated include the entrepreneur’s knowledge, training and experience, and his or her team of employees and managers. It includes the judgment, insight, creativity, vision, and intelligence of the individual members of an organisation. It can even include the social skills of the entrepreneur [16]. Entrepreneurs often perceive great opportunities where others see only competition or chaos; therefore, entrepreneurial perception is a resource. The entrepreneur’s values and his or her beliefs about cause and effect can form the initial imprint of the firm’s culture. Entrepreneurs who believe in racial and cultural diversity and can build a workforce around these values are even more successful than those who do not practice diversity. A new study indicates that diversity interacts with strategy in three ways to enhance performance: improves productivity, improves return on equity, and improves market performance.

There is a distinction between technological capital and intellectual capital. [15] asserted that, Intellectual capital is embodied in a person or persons and is mobile. If the person or persons leave the firm, so does the capital. [17] argued that technological resources are physical, intangible, or legal entities and are owned by the organisation. Technological resources such as, machines, computer systems, equipment, machine, tools, robots, complicated electronics, and so on, cannot be the basis for sustainable competitive advantage because they can be duplicated and reproduced. There are enough mobile and capable engineering and scientific human resources to take apart and put together any of this complex technology. A patent, however, might make it illegal for a firm’s competition to commercially develop an exact copy. However, complex technology is not worthless in sourcing of competitive advantage [18]. Although a number of firms may have the same complex technology, one firm may be more adept at exploiting this technology through its human or organisational resources. If the method of exploiting the technology is not easy to imitate, then other resources can augment technology to provide needed capabilities.
Productivity is one of the key determinants of high and sustained growth and in fact a key determinant of long term growth. It remains a vital economic driver for developed and developing countries and would play a critical role in eradicating poverty especially in low-income countries. The agricultural sector generates a substantial level of revenue while increasing real income. It not only employs an estimated 70 percent of the work-force in low income countries, but it is also a major contributor to Gross Domestic Product (GDP) estimated at approximately 30 percent [26].

Productivity can be defined as the index of the ratio of the value of total output to the value of the total inputs used in the agro related production [19]. Productivity is measured by analysing records of production volume by product line, type and production time, while the productivity of the main processing lines is compared with data for main competitors where possible [20]. Productivity in the agricultural sector is measured by value added. By definition, agricultural productivity is the primary source of poverty reduction in most agriculture-based economies. The expansion of smallholder farming can lead to a faster rate of growth, by raising the incomes of rural cultivators and reducing food expenditure, and thus reduces income inequality.

The firms growth lead higher productivity. This is based on the economies of scale. Firms experience a decline in average costs as output increases [21]. Small firms tend not to operate in industries where economies of scale are present, precisely because these are not industries that can make them competitive. Economic theory supports the premise that higher productivity leads to growth of small enterprise, since productivity is a source of competitive advantage as low cost production. Factors such as education and experience can directly increase the capabilities of SMEs employees who are more likely to adopt or create practices that heighten productivity levels. This added productivity then contributes to growth. [21].

Production efficiency means the attainment of production goals without waste and is an important factor of productive growth, specifically in developing countries where resources are meagre and opportunities for developing and adopting better technologies are limited. [22] derived the three components of efficiency recognized in the economic literature. They include:

(i) Allocative efficiency,
(ii) Economic efficiency and
(iii) Technical efficiency.

A firm is said to be technically efficient if it produces as much output as possible from a given inputs or if it uses the smallest possible amount of inputs for a given level of output and input mix. The allocative efficiency reflects the firm ability to use the inputs in optimal proportions at their respective prices. The product of these two efficiencies is economic efficiency, which could be defined as the ability of the firm to produce a well-specified output at minimum cost [22].

In an economic environment characterized by intense competition and increasingly rapid industrial changes, the analysis of value chain production efficiency and technical capacities is made in order to: assess the production system and tools; evaluate technical performance; and determine the principal technical actions to be carried out to upgrade individual enterprises and enhance their competitiveness. Production efficiency is measured elimination of wastes and optimal utilization of inputs (raw materials and supplies, labour, water and energy, production materials, equipment). [23] stated that, in production efficiency, raw materials and supplies are examined in terms of characteristics, compliance with technical specifications, patterns of consumption by manufactured unit, and losses and waste; while the human resource factor are assessed with respect to skills and technical capabilities, staff training and occupational safety.

The efficiency of the production system (technology and process) [24], asserted is compared with systems used in the sector by the main competitors. These are utilization of raw materials, finance and labour; the flexibility of producing a range of products and adapting to fluctuations in volume and the capacity of the staff to assimilate technological change and innovation. The capacity of the enterprise to provide finished products that meet the needs of customers is also assessed. Production management methods, and assurance are evaluated in production efficiency.

In a study by [25] on the application of entrepreneurship and strategic management on
operational performance of SMEs; the study shows that over 80% of the respondents indicated that entrepreneurship and strategic management boosts their firms’ production efficiency (reduces costs and increases productivity), aids timely delivery of the products of the firms and also aids the utilization of human and material resources.

2.2 Theoretical Framework

The human capital entrepreneurship theory consists of education and experience. The knowledge gained from education and experience represents a resource heterogeneously distributed across individuals. They are central to understanding differences in opportunity identification and exploitation. Human capital factors are positively related to becoming a nascent Entrepreneur, increase opportunity recognition and even entrepreneurial success.

2.3 Empirical Review

[29] examined the effect of human capital factors. A survey of 107 agro-processing firms conducted in Mbeya and Morogoro Regions, Tanzania. Descriptive statistics and regression analysis was employed in estimating the effect of factors on labour productivity. Results show that the trend of labour productivity among different types of small agro-processing firms varies. Animal feed, cooking oil and milling firms tend to have higher labour productivity than bakeries and milk processing firms. Moreover, the experience of workers, education of managers and female managers has a positive effect on labour productivity in small agro-processing firms. Contrary to expectations, the number of workers with education above standard seven has a negative effect on labour productivity. Through these findings the study recommends investment in physical and human capital factors for the growth of labour productivity and employment creation.

[14] examined the skills required by entrepreneurs for the enhancement of the performance of SMEs, find solutions to the problems facing the SMEs in Nigeria and identify the option strategies needed by new ventures as demonstration alternatives. The study focused on the issues of resource acquisition strategies and challenges militating against prosperity and profitability of SMEs in Nigeria. The study used simple t-test and survey methodology through questionnaire (administered) as an instrument of primary data collection from a stratified random sample of 250 owners and employees of SMEs in major industrial cities in Nigeria. Major findings include entrepreneurial skills, proper record keeping, access to financing, concessional taxation, longer period of operation and consistent policies were found to be significant factors required for business success and profitability in Nigeria. Seminars and workshops are recommended to improve SMEs entrepreneurs’ capabilities, as well as the institutional co-ordination of the efforts of relevant agencies and institutions, and the streaming of the myriad of taxes stifling SMEs.

3. METHODOLOGY

3.1 Research Design

The research design used in this study was the cross-sectional survey design, associated with the deductive approach used for descriptive research purpose. On the basis that it involves sampling of elements selected from the population of interest, collection of quantitative data to be measured at a single point in time.

3.2 Population of the Study

The population of SMEs for this study consisted of all agro-allied SMEs in the selected States, of the South-South region, registered with the states’ MSME development agencies and the states’ Ministries of Trade Commerce and Industry; with a minimum capital base of one million Naira. The population therefore comprised a total of eleven thousand, six hundred and seventy three (11,673) agro-allied small scale businesses operating within the agricultural sector.

3.3 Sample and Sampling Technique

For the purpose of determining the minimum returnable sample size from the given population, the Taro Yamane (1967) sample size estimation technique was employed.

Based on the applied sample estimation technique, a sample size of three hundred and eighty seven (387) was arrived at. However, in order to achieve a minimum response rate of 65% as posited by Cochran (1977) and Bartlett,
Kotrlik and Higgins (2001), the oversampling procedure is employed.

Furthermore, for the purpose of this study, the multistage random sampling techniques were adopted. The questionnaire was structured in close-ended five-point Likert scale and subdivided into four main sub-sections.

Reliability test was conducted for each of the latent variable based on the number item that measured it. The result indicated that all the variables are reliable and are certified for further analysis, as all the variables have values of the Cronbach Alpha above 0.7. A value of 0.7, Pallant (2004) asserted is generally recommended, however, Hinton, Brownlow, McMurray and Cozens (2004) stated that an “Alpha score above 0.75 is generally taken to have a high reliability.

3.4 Model Specification

Based on the above stated models, Sustainable Productivity of Agro-Allied Small Businesses (SIP) was regressed on the set of explanatory variables as it relates to Human capital resource. The coefficient of the variables measured the effect of the proxies of the independent variable (SEM) on the dependent variable proxies (SAS). Therefore, the general form for the model is given as:

$$Y = f(X_1, X_2, X_n)$$  \hspace{1cm} (1)

Where:

$Y$ = dependent variable of Sustainable Productivity of Agro-Allied Small Businesses;

$f$ = a function to be specified

$X$ = independent variable of Human capital resource

In specific form, equation 9 translates into equation 10 thus:

$$Y = a + X_1 + X_2 + X_3 +, + X_n + e$$  \hspace{1cm} (2)

Where:

$Y$ = dependent variable (Sustainable Development of Agro-Allied Small Businesses)

$a$ = constant

$x_1, x_2, x_3,..........., x_n$ are independent variables,

SIP = $f$(FIC, HCC, PRC, RMS)  \hspace{1cm} (3)

$U$ = residual or stochastic term (which reveals the strength of $x_1, ..., x_n$; if $e$ is low, this implies that the amount of unexplained factors is low, then the residual R and $R^2$ will be high and vice versa.

$$SIP = \beta_0 + \beta_1 FIC + \beta_2 HCC + \beta_3 PRC + \beta_4 RMS$$  \hspace{1cm} (4)

Where:

FIC$_3$ = Financial Capacity

HCC$_4$ = Human Capital Capacity

PRC$_5$ = Production Capacity

RMS$_6$ = Raw Materials Sourcing Capacity

SIP = Sustainable Productivity (Output and Efficiency)

$\beta_0$ = Unknown constant to be estimated

$\beta_1$ = Unknown coefficients to be estimated

$U_i$ = Error Term

$\beta_1 > 0$

The ‘a priori expectation’ in the model is that the independent variable is expected to relate positively and influence sustainable development of agro-allied businesses, measured by, sustainable productivity (output and efficiency). The mathematical expression is represented as; $\beta_1 - \beta_2 > 0$ implying that a unit increase in the independent variables will lead to increase in Sustainable Development of Agro-allied Small Businesses by a unit.

4. RESULTS AND DISCUSSION

4.1 Results

Table 1. Regression result on resource mobilisation capacity of strategic entrepreneurship management and effect on sustainable productivity

<table>
<thead>
<tr>
<th>Dependent Variable: SIP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method: Least Squares</td>
</tr>
<tr>
<td>Date: 06/08/18</td>
</tr>
<tr>
<td>Time: 20:29</td>
</tr>
<tr>
<td>Sample: 487</td>
</tr>
<tr>
<td>Included observations: 487</td>
</tr>
</tbody>
</table>
4.2 Interpretation of Results

Since the calculated t-value (FIC 3.6 > 1.96; HCC 2.3 > 1.96; PRC 8.9 > 1.96 and RMS 2.1 > 1.96) are greater than the tabulated value (1.96), which implies that, all the indicators (FIC, HCC, PRC and RMS) of human capital resource individually have significant effect on sustainable productivity; we therefore, reject the null hypothesis (H0). Hence, we conclude that human capital resource has significant effect on sustainable productivity of agro-allied businesses in Nigeria. Also, by examining the overall fit and significance of Sustainable Increase in Productivity (SIP) model, it can be observed that the model does have a good fit, as indicated by the relatively high value of the F-statistic, 217.8 and it is insignificant at the 5.0 per cent level; that is, the P Value (rho value) of 0.0082 being less than 0.05 probability levels implies that there is a 0.0082 chance that the equation as a whole is not significant. More so, the $R^2$ (R-square) value of 0.734377 shows that the model does have a good fit too. It indicates that about 73.43 percent of the variation in Sustainable Increase in Productivity is explained by FIC, HCC, PRC and RMS, while the remaining 26.57 percent is captured by the error term.

4.3 Discussion of Findings

In respect to human capital capacity, this finding agrees with the findings of Kipene, Lazaro and [29] whose study showed that the trend of labour productivity among different types of small agro-processing firms varies. While animal feed, cooking oil and milling firms tend to have higher labour productivity than bakeries and milk processing firms, experience of workers, education of managers and female managers has a positive effect on labour productivity in small agro-processing firms.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Based on findings of hypothesis, the study concludes that human capital capacity, as indicators of resource mobilisation capacity of strategic entrepreneurship management, has significant effect on sustainable increase in productivity of agro-allied businesses in Nigeria. This is confirmed by the analysis of research question three which shows that, resource mobilisation capacity can help achieve zero wastage level in operational processes, help production output meet market demand, engage skilled and competent manpower to achieve operational efficiency and help achieve target output of quality products.

5.2 Implications of the Study

The educational implication of this study was multidimensional, as it among others. The study filled the existing gap in both literature and empirical studies regarding the absence of any
study on strategic entrepreneurship management and development of sustainable agro-allied businesses operating in South-South States of Nigeria; prior to this study, extant literature variedly discussed the concepts of entrepreneurship and strategic management (Sexton, 2002; Morris, 1998; Priem & Butler, 2001) and strategic entrepreneurship (concerned with entrepreneurial actions, strategic actions, entrepreneurial orientation and strategic renewal as listed by Singh, 2009); however, this study projected strategic entrepreneurship management as a new concept. Since there was no extant literature that completely integrated strategic entrepreneurship management as a concept, this concept was developed as an improvement on the works of Amit and Zott (2001), Hitt and Ireland (2000), Hitt, Ireland, Camp and Sexton (2002), Morris (1998), Priem and Butler (2001) and Singh (2009), to successfully integrate risk propensity, innovation and creativity, resource mobilisation capacity, knowledge management, strategic alliances and marketing strategies as components of strategic entrepreneurship management concept, and thus lays foundation for strategic entrepreneurship management model and theory, which is a significant contribution to the body of knowledge. Furthermore, this study established the fact that, the trend in mortality rate and stagnant nature of agro-allied businesses in South-South Nigeria can be reversed to businesses with sustainable performance, growth and development in terms of technological advancement, capacity utilisation, employment generation, increasing productivity (output and efficiency), financial performance and growth, with the adoption and integration of strategic entrepreneurship management practices. This study serves as a reference point for students, researchers, scholars, consultants and practitioners who are desirous in carrying out further research to retest and deepen the validity of strategic entrepreneurship management as a new concept and model and to extend the research to areas not covered in this study.

The policy implications of this dissertation include; Integration of the strategic entrepreneurship management model into the training and capacity development modules for empowerment schemes prior to disbursements of loans and grants. This will help reduce mortality rate of businesses and foster increased collaborations to sustain development of agro-allied businesses in Nigeria; reduce constraints to accesses to long-term agricultural loans needed for economic activities, promote technological advancement, encourage employment generation and boost productivity for sustained diversification and economic growth; prioritise the provision of supportive infrastructures needed to drive the agro-allied sector, as this will provide a platform for sustainability of business productivity, growth and expansion; stimulate innovative and creative participation of youths in the agricultural sector to reduce the rising unemployment and insecurity in Nigeria.

5.3 Recommendations of the Study
Since the finding of hypothesis revealed that, resource mobilisation capacity has significant effect on sustainable productivity of agro-allied small businesses in Nigeria, the following recommendations are therefore proffered. Since the findings reveal the constraints being encountered in accessing long term finance to boost productivity, it is recommended that, efforts should be made to educate the small business entrepreneurs on the benefits of equity financing as a viable option towards business growth and expansion. Also, the government through the various intervention agencies should restructure the long-term loan policies to give access to more growth oriented agro-allied businesses, to increase their presently low capacity to procure heavy duty technology to increase productivity and achieve food security in Nigeria. Owing to the abundance but high cost of raw materials needed for uninterrupted operations, it is recommended that, small business owners should take advantage of the membership of cooperative societies and as well maintain good business relationship with suppliers; this will guarantee continuous supply of needed materials and uninterrupted operations of the business.

CONSENT
As per international standard or university standard, participant’s written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL
It is not applicable.

COMPETING INTERESTS
Authors have declared that no competing interests exist.
REFERENCES

21. Amulu CC. Entrepreneurial development and small scale businesses in Enugu State: University of Nigeria Enugu Campus. 2014;34-44.
24. Shane SA. A General Theory of Entrepreneurship: The Individual-


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