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Business approach to a traditional economic activity: the competence status of the small scale arable farmers in delta state, Nigeria

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Abstract: Given the paradigm shift in agricultural development from "development approach" to "business approach" in Nigeria, this paper assesses the skills/competences of Nigeria's arable farmers to cope with the anticipated new policy environment in terms of skills and competences requirements and the performance improvement potential of the farmers using Delta State, Nigeria as a case study. Data on perception of the importance of items of skills and competences and farmers' self-rating of expertise in the application of these items of skills and competences were elicited from farmers on a 5-point likert type scale using copies of a structured questionnaire. A total of 126 arable farmers were drawn from the three agricultural zones in the state using multi-stage sampling procedure. Data were analyzed using frequency counts, mean and mode. Among the findings was that: farmers were poor in the use of internet facilities, in networking and in exploiting the benefits inherent in social capital; they have poor perception of the importance of managing finances and accounting. They, however, rated their skills and competences in the application of local technology "fairly". A skill gap of 1.01 which was significant at alpha equal 1% was established. Performance improvement potential was over five times. This indicates a wide range of skills and competences among the farmers which needed to be narrowed by way of capacity building to facilitate farmers' efficiency given the state of the art in agricultural production in Nigeria.
Keywords: Policy paradigm shift, development approach, business approach, arable crop

INTRODUCTION

Assuming a sustained policy direction and a thorough implementation, the paradigm shift in agricultural development in Nigeria, from "development approach" to a "business approach" is likely to reveal a lot of issues about the capacity of Nigeria's farmers to integrate into globally accepted best practices in agriculture which if identified sufficiently early and attended to with dispatch will facilitate the realization of the objective of the new policy drive. The new approach is intended to make the sector more market oriented, increase the income generation capacity of famers and speed up the growth and development of the sector. New approaches require perceptual change and new capacities. The issue is whether Nigeria's farmers have what it takes to be involved in agriculture as a business.

The success of business approach to agriculture, as in other industries, hinges on being proactive, innovative and dynamic on the part of the operators to create increasing marketable surplus from their engagement in agriculture, the changing environment notwithstanding [1]. It also requires robust strategies for lowering cost and asserting sustained upward pressure on profit. The persistent dive in agricultural output in Nigeria is at variance with expectations of a business approach. Presently, production and processing methods are crude and adoption of relevant and modern technology is low [2]. Farming in Nigeria tends to depend on the government for subsidy and provision of a wide range of non land inputs and supports apart from credit.

Efforts are never spared at finding lasting solutions to challenges confronting Nigeria's agriculture. Agricultural policies under the National Economic Empowerment Development Scheme (NEEDS) of 2004 were designed to achieve a minimum growth rate of 6% per annum. Food imports were planned to fall from 14.5% to 5% of total imports by 2007. Paradoxically, food import bills have continued to rise since 2009 such that by the end of 2011 food import bills were 10.53% of total import bills [3]. This was the scenario in which the paradigm shift was initiated in 2012.

The skills/competences of the farmer in a traditional subsistence farming deviate negatively from those of the farmer in contemporary business context which is profit oriented and technology driven. The proactive and dynamic management of business has been described as "entrepreneurial management" [4]. The entrepreneurs are known for their capacity to pursue opportunity irrespective of the status of resources currently controlled and to exceed the limit of the current resources owned [4]. They can do this because they have the capacity to mobilize resources to

achieve their business goals. Skills and competences of this nature are not likely to be developed neither in largely subsistence agriculture nor in a situation where it is the government that has the initiative and also provides most non-land resources to farmers. It is in the light of this that the researcher considered it necessary to determine the skills/competence status of Nigeria's farmers as to their capacity to cope with the anticipated requirements of the new policy.

Opportunity skills, strategic skills and cooperation/networking skills are three broad groups of entrepreneurial skills required for business success [1] Industry knowledge, general management skill and personal motivation are also required [5]. Farming is now a competitive business venture in a fast changing environment [6]. In the light of this, he added information processing skills, and numeracy and literacy skills as part requirements for success in farm success. The skills/competences items from these authors informed the questionnaire that was used in this study. This paper therefore has as its objectives the following: (i) to ascertain the level of farm business skills/competences of Nigeria's farmers and (ii) to determine the potential for improving arable crops output given the state of the art. The hypothesis tested was that arable crops farmers' skills/competences are not above average.

MATERIALS AND METHODS

Area of study

The study was conducted in Delta State, Nigeria. The State lies between longitude 5^0 and 6^0 45^1 East and latitude 5^0 20^1 and 6^0 30^1 North of the Equator. There are three agricultural zones in the State with its headquarters at Asaba. The field survey was conducted in January and February 2014 on arable crop farmers in the three agricultural zones. The age of the farmers interviewed was restricted to a ceiling of 50 years in order to allow for the chances of recommendations made to remain relevant to the farming population for some time to come [1]

Sampling procedures

A multi stage sampling procedure was used to draw the respondents. First, two Local Government areas (LGAs) were drawn from each of the three agricultural zones. This was followed by the random drawing of three communities from each of the six LGAs. Finally, seven respondents were drawn randomly from each of the eighteen communities giving a total of 126 arable crop farmers.

Data Collection Procedure

Farmers were asked to rate items of farm business management skills/competence on a five points numerical rating scale (not at all important = 1, somewhat important = 2, moderately important = 3, fairly important = 4 and, very important = 5) and to also rate their expertise in the application of the stated skills/competence items on a five points numerical rating scale of (not at all skilled = 1; somewhat skilled = 2; moderately skilled =3; fairly skilled =4; and very skilled =5). Self rating are prone to biases but acceptable alternative has not been found [7] hence it remains a universal tool for quantitative measurement and comparison under any kind of needs assessment method [8].

Validity of instrument

The reliability of the research instrument was tested using the SPSS 21 version. The result gave a Cronbach's alpha of 0.87.

Data Analysis

Data were analyzed by using frequency counts, mean and mode. The use of mode side by side with mean was to avoid the erroneous conclusion that may arise from the use of either alone. The effect of a few high rating on the group mean can mask the severity of the challenge, just as the use of mode alone can give an erroneous impression of the spread of the phenomenon. T-test of difference between means was used to determine any significant difference between A one sample T- test was carried out to test the hypothesis that respondents mean score in the application of skills/competence items was less than a test value of 3.4.

The potential for increase in total agricultural output was determined using the performance improvement potential (PIP). PIP is calculated using the formula given by Kubr and Prokopenko (1992)[8] as:

Employee $P = \frac{\beta}{\gamma}$

Where: P = Performance improvement potential; ß = best farmer performance and ɤ = group average performance.

RESULTS AND DISCUSSION

Demographic Characteristics of respondents

Out of the 126 copies of the questionnaire that were administered, 80 were admissible in the study. Table 1 shows that most of the farms (87.50) were not registered as limited liability companies. Males constituted 62.50% of the sample, 68.80% were married, 72.50% had prior experience before taking to arable crop farming and 17.50% had no formal education. Worthy of note was that 31.30% had a university degree or higher.

Table 1: Demographic Characteristics of respondents

Characteristics	Crop Production
Is farm registered? No	70 (87.50%)
Yes	10 (12.50%)
Total	**80 (100%)**
Gender: Female	30(37.50%)
Male	50(62.50%)
Total	**80 (100%)**
Marital status: Single	19 (23.80%)
Married	55 (68.80%)
Single again	6 (7.40%)
Total	**80 (51.61%)**
Any prior experience: No	22(27.50%)
Yes	58(72.50%)
Total	**80 (100%)**
Education: No formal	14 (17.50%)
Primary School Cert.	6(7.50
WASC/equivalent	16 (20.00%)
NCE/ND	19 (23.80%)
First degree/equivalent	20 (25.00%)
Higher degree	5 (6.30)
Total	**80 (100%)**

Source: Field survey 2014

As to whether these qualifications were in agriculture or related disciplines or not, a study of 275 poultry farmers in Delta State showed that only 24.72% of the poultry farmers had qualifications in agriculture or related discipline[9]. This may have implications for managerial skills/competencies in terms of both the appreciation of agricultural tools and techniques and in self rating on skill/competence items. Higher level of education is essential for highly sophisticated industry [10]. In addition to formal education, very relevant and effective short courses and personal development are cardinals to the success of the farm business (Livingstone, 2000)[6]. Over 55% (NCE/HND 23.8%, First degree or its equivalent 25% and higher degree 6.3%) had educational qualification higher than Senior Secondary school certificate (WASC). Ordinarily, this proportion of total farmers with tertiary education could have been considered adequate to drive whatever innovation to be introduced except that not all of them are qualifications in agriculture or related discipline [9]. This can have adverse influence in technology uptake [2] and make for the need for a sizeable number of farm business executives, that is, farmers equipped with requisite formal education [11] to move into the sector, to enact the farm business approach to agriculture.

Farmers' rating of support, advice and/or information sources

Eight items indicating farmers' sources of professional advice/support were scored. Of the eight items (Table 2), suppliers' advice and/or support and family and friends and customers were, on average, rated low to moderate (3.27, 3.56, and 3.65 in that order). Each of them had a modal score of 5 (that is "very important"). Farmers considered these sources of information and advice more important than professional sources like farmers' network and professional associations. Invariably, farmers with high level of technical know-how/professionalism are more likely to seek professional advice from experts instead of family and friends. It should be observed that networking and use of professional services like the bank and support groups were rated low to average in importance (modal rating of "1") (Table 2). The essence of professional associations and support groups lies in the benefits which they offer to members. Professional services and networking are recognized globally as key success factors in profit oriented ventures. With globalization, the use of the internet is no longer optional. No serious minded profit oriented farmer can avoid its use and remain in business for too long. The low rating of these items may point to either or both of two possibilities. First, is the low access to credit from formal sources by farmers [12]; [13] and [14] which apparently compel farmers the high dependence on informal sources of credit. Secondly, is the subsistence farming with marketable surplus which leaves little or no margin to pay for professional services. An environment with these characteristics may not be supportive of a business approach to agriculture.

Table 2: Farmers' own experience rating of support, advice or information sources in farm business management

Farmers	Frequency (Per cent)						Statistics	
	Not at all important	Somewhat important	Moderately important	Fairly important	Very important	Total	Mean & Std	Mode
Farmers' network are useful to me	27(33.80)	5(6.30)	9(11.30)	25(31.30)	14(17.50)	80(100)	2.93(1.57)	1
Professional assoc are useful to me	36(45.00)	0(0.00)	13(16.30)	13(16.30)	18(22.50)	80(100)	2.71(1.68)	1
Professional services(banks, insurance)are useful to me	38(47.50)	16(20)	10(12.50)	7(8.80)	9(11.30)	80 (100)	2.16(1.40)	1
Support group(trade union, cooperative) are useful to me	22(27.50)	11(13.80)	10(12.50)	17(21.30)	20(25.00)	80 (100)	3.02(1.57)	1
Family & friends useful for advice & support	9(11.30)	13(16.30)	13(16.30)	14(17.50)	31(38.80)	80 (100)	3.56(1.43)	5
Customers useful to me for advice & support	9(11.30)	13(16.30)	8(10.00)	17(21.30)	33(41.30)	80 (100)	3.65(1.44)	5
Suppliers useful to me for advice & support	21(26.30)	5(6.30)	9(11.30)	21(26.30)	24(30.00)	80 (100)	3.27(1.59)	5
The internet useful to me for advice & support	31(38.80)	15(18.80)	13(16.30)	21(26.30)	21(26.30)	80 (100)	2.56(1.62)	1

Source: Field survey 2014

Farmers' perception of the importance of items of farm business skills/competences

Farmers' had moderate perception of the items of skills/competences required in formal planning of farm business, marketing and in handling service expectation and handling problems. Not to have a good perception of skills/competences required in ones business is in itself a skill gap of a kind. The challenges posed by these items of skill/competence are more likely than not to be at the root of the usual seasonal glut of agricultural produce at peak harvest times. Furthermore, the moderate rating of items of skills/competence required in managing finance and accounting is apparently an over statement given the reality of lack of farm data/records in Nigeria. Hence any claim to a meaningful practical application of the skills involved here is either minimal or doubtful. Skills/competences in customers' handling and marketing may receive moderate to high scores because of their close association with revenue and, invariably, profit. This notwithstanding, perception needs to be properly founded to enable an adequately strong interest that can motivate the desired behavior. In this wise, organizing a skill/competence reorientation programme for the farmers would be appropriate to enable a common understanding of terminologies and expectations.

Farmers' assessment of own skills and competences in farm business management

Farmers' self rating in business management skills and competences were generally high, except for the three items of, day to day administration, use of formal business plan and use of formal marketing plan (Table 4). A One sample T-test using a test value of 3.40, indicates that farmers' overall mean score was significantly above the test value ($T = 5.05$, $df = 29$, $p < .01$). This implies that farmers' skill/competence is generally above average. While it may be difficult to say that farmers do not plan, given the fact that some fore thought is usually given to expectations and operations before implementation, the use of formal planning tools which make for higher objectivity and facilitates the monitoring of implementation progress and evaluation of results attained, has a relatively low score. This comes close to reality. Formal planning requires many factors beyond data/information from own farm and from the relevant external environment. The traditional farmers do not keep farm records and they are poor in networking. The availability of such data/information is therefore in doubt and the possibility of analyzing any data, let alone drawing objective lessons from results for incorporation into subsequent year activities is impaired from the outset. These challenges are compounded by the low level formal education of the traditional farmer. Finally, except the issues involved in farmers' low rating of experience with farmers' network, professional associations, support groups and use of internet (Table 2) are effectively resolved, the success of the Nigerian farmer as a businessman in a globalized market may be difficult.

Table 3: Farmers' Perception of the importance of items of business and management skills/Competences

Type of Farm	Frequency (Per cent)						Statistics	
Arable Crops	Not at all important	Somewhat important	Moderately important	Fairly important	Very important	Total	Mean & Std	Mode
Customer Service: Handling service expectations & dealing with problems	20(25.00)	3(3.80)	23(28.80)	5(6.30)	29(36.30)	80(100)	3.25(1.59)	5
Financial: Managing finance/accounting	11(13.80)	0(0.00)	13(16.30)	17(21.30)	39(48.80)	80(100)	3.91(1.38)	5
Managing farm budget	3(3.80)	5(6.30)	16(20.00)	8(10.00)	48(60.00)	80(100)	4.16(1.17)	5
Marketing/Sales: Identifying and reaching customers	17(21.30)	0(0.00)	11(13.80)	18(22.50)	34(42.50)	80(100)	3.65(1.54)	5
Day to day administration	8(10..00)	13(16.30)	22(27.50)	10(12.50)	27(33.80)	80(100)	3.44(1.38)	5
Managing self	3(3.80)	5(6.30)	0(0.00)	25(31.30)	47(58.80)	80(100)	4.35(1.03)	5
Managing your time	3(3.80)	5(6.30)	5(6.30)	22(27.50	45(56.30)	80(100)	4.26(1.08)	5
Use of formal business plan for your farm	20(25.00)	5(6.30)	15(18.80)	17(21.30)	23(28.80)	80(100)	3.23(1.55)	5
Use of formal marketing plan for your farm	25(31.30)	6(7.50)	5(6.30)	30(37.50)	14(17.50)	80(100)	3.03(1.56)	4
Managing/Supervise employees and their needs	17(21.30)	3(3.80)	10(12.50)	8(10.00)	42(52.50)	80(100)	3.69(1.63)	5

Source: Field survey 2014

Table 4: Farmers' Self rating on the application of business management skills and competences items

Type of Farm	Frequency (Per cent)						Statistics	
Arable Crops	Not at all important	Somewhat important	Moderately important	Fairly important	Very important	Total	Mean & Std	Mode
Customer Service: Handling service expectations & dealing with problems	3(3.80)		21(26.30)	14(17.50)	42(52.50)	80(100)	4.15(1.06)	5
Financial: Managing finance/accounting	8(10.00)		5(6.30)	28(35.00)	39(48.00)	80(100)	4.13(1.21)	5
Managing farm budget			18(22.5)	22(27.50)	40(50.00)	80(100)	4.28(0.81)	5
Marketing/Sales: Identifying and reaching customers	3(3.80)		8(10.00)	23(28.80)	46(57.50)	80(100)	4.36(0.94)	5
Day to day administration	13(16.30)	8(10.00)	13(16.30)	20(25.0)	26(32.50)	80(100)	3.48(1.45)	5
Managing self			5(6.30)	22(27.50)	53(66.30)	80(100)	4.60(0.61)	5
Managing your time		5(6.30)		22(27.50)	53(66.30)	80(100)	4.54(0.79)	5
Use of formal business plan for your farm	19(23.80)		15(18.80)	17(21.30)	29(36.30)	80(100)	3.46(1.56)	5
Use of formal marketing plan for your farm	19(23.80)		5(6.50)	36(45.00	20(25.00)	80(100)	3.48(1.43)	4
Managing/Supervise employees and their needs	16(20.00)		10(12.50)	19(23.80)	35(43.80)	80(100)	3.71(1.52)	5

Source: Field survey 2014

Skill Gap

Skill gap, for practical purposes, is here defined as the difference between farmers' mean rating of expertise in the application of the items of skill/competence and the highest possible score in the rating scale. Farmers' mean rating of expertise in the application of these skills/competence items was = 3.99; Sd =0.64. Given the maximum score of five, the mean score leaves a numerical gap of 1.01 which was significant (T=-8.62, P 0.00). This relatively high mean score in the demonstration of skills/competences from farmers' self rating, it should be noted, are on methods

and tools which in most cases are at variance with best practices but with which farmers are complacent.

The new policy drive is expected to be hinged on relevant modern practices the adoption of which has been observed to be low [2]. Hence, a study of farmers' skill/competence on recommended practices would give a more realistic result as to the true skill/competence gap. Furthermore, not physically observing the farmers' demonstration of skill/competence in these items limits the power of the deductions that could be made from the results; hence the need for a longer term study is identified.

Performance improvement Potentials of farmers

Farm incomes varied widely ranging from fifty thousand naira (₦50, 000.00) to two million and twenty five thousand naira (₦ 2,025,000.00) per hectare with a mean and standard deviation of ₦383, 750.00 and ₦438, 007.00 respectively. The performance improvement potential (PIP) was estimated at 5.28 indicating that arable crops output could be increased by over 5 times the current level with a more skillful application of available resources. This finding that there is potential for increasing agricultural output in Nigeria, given the state of the art, collaborates the works of Asogwa, Umeh, & Penda [15] and Etim, Thompson.& Onyenweaku [16]. The realization of this potential could indeed make business out of farming but, first, the gap in skills has to be bridged.

CONCLUSION

Business approach to venture management has merits, irrespective of place or time. It, however, presumes possession of skill/competence in a number of key factors. A business approach where formal planning, networking and the use of professional services are poorly appreciated and poorly applied by farmers deserves a deliberate and urgent capacity building of farmers with deficiencies. Though skill/competence is significantly above average but remained significantly lower than the highest possible level further buttress the recommendation already made. The over five times performance improvement potential indicates a wide ranging level of skills and competences which need to be narrowed by way of capacity building to facilitate an invariably large proportion of farmers' capability to effectively apply themselves to the demands of the new policy drive in Nigeria.

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