ETHNICITY AND AFRICAN-CARIBBEAN ENTREPRENEURSHIP IN THE UK

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Abstract: The realities of business and economic under-achievement among African-Caribbean businesspersons in the UK have been observed and documented by different observers including Academics, the Bank of England, High street and clearing Banks, suppliers of capital and other financial institutions. Many researchers and writers attribute this poor performance and underachievement to their ethnic backgrounds and traits. Some have gone as far as implying that they are devoid of business skills and lack virtually every attribute which facilitates enterprise in other ethnic groups. The purpose of this research was to investigate if African-Caribbean business people possess entrepreneurial qualities or not.

Keywords: Business development, Entrepreneurship attributes, Entrepreneurship Categorization, Ethnic groups, Banks, E-Factor model.

INTRODUCTION

Aims and objectives of research

The aims and objectives of the research can be summarised as follows:

i To explore and critically analyse some of the theories and concepts of entrepreneurship with a view to assessing a sample of African-Caribbean business owners.

ii To examine the methods for classifying or categorising Businesspersons and to determine the most suitable methods for categorising African-Caribbean Businesspersons in the UK.

iii To use the chosen method to classify a sample of African-Caribbean business owners into qualitative categories with a view to determining whether they can be regarded and treated as true entrepreneurs, quasi-entrepreneurs, administrators, caretakers or according to business writers, devoid of entrepreneurial attributes, i.e., pseudo-entrepreneurs. This will constitute a test of the research hypothesis.

iv To determine if there are any peculiar problems faced by the African-Caribbean business owners in the UK, to investigate such problems and suggest possible solutions.

v To answer the main questions asked at the beginning of the research, i.e., "Are African-Caribbean Businesspersons lacking in entrepreneurial attributes? Are they

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doing badly because they are naturally non-entrepreneurs? Do they simply lack the characteristics or qualities of entrepreneurs? In short is the African-Caribbean Businessperson a Pseudo-entrepreneur?

Methodology

The research was carried out between 1998 and 2003 as part of a Doctorate in Business Administration in the Business School of the University of East London as part of general investigations into the reasons for the poor performance of African-Caribbean business persons in the UK.

To obtain most reliable information, fieldwork was carried out in two phases. In Phase 1, all the proposed techniques to be used for obtaining data such as questionnaire structuring, interviewing (structured and unstructured), similar to those suggested by Dana and Dana (2005), were pretested to minimise any possible anomalies. The questionnaire was structured in two parts, one part covering questions required for categorisation and the other part covering questions for general information, opinion and attitudes on the state of African-Caribbean entrepreneurship.

The Phase 2 constituted the main data collection process. During this period, survey questionnaires were distributed to African-Caribbean Business owners and those who were willing to spare the time were interviewed on the spot. The data from the questionnaires and interviews were processed and analysed using the NN and *E*-Factor models, and other statistical tools. Okonta and Pandya (2007)

Pilot and exploratory studies

Before embarking on the primary data collection, it was of vital importance to explore and discover crucial details from different sources. The rationale for undertaking exploratory research is to ensure that one has a clear understanding of the relevant issues based on access to quality data (Gummesson, 1991). Yin (1994) outlines a number of sources of exploratory information. These include documentation, archival records, interviews, direct observation, participant observation and physical artefacts. Because of the nature and scope of this research, it was deemed impracticable to utilise the direct observation and participant observation approaches. As a result, the main form of evidence was based on discussions, reports from respondents, their clients and other African-Caribbean business owners who were willing to participate, in addition to a survey.

At the initial stages of the study, discussions were held with different groups, individuals, clients and professional colleagues on the problems they face. More discussions were held with members of ethnic business associations, e.g., Black Business organisation based in North London and the Black Link. Further discussions were held with some traders and businesspersons on the high street and street markets. The information and insight, from such exploratory investigation, revealed the extent of the problem at hand and re-iterated the need for this research. The initial studies also provided indications of the number of African-Caribbean Business people actually trading in Greater London. It also enabled one to decide on the content of questions, format of questionnaire and confidentiality.

DATA ANALYSIS AND CATEGORISATION OF BUSINESS OWNERS

There were certain problems encountered during data collection (some were tackled).

These can be summarised as:

i Many African-Caribbean business owners were so pre-occupied with their business and did not want to spare anytime, participating in a research study. For them, there is no immediate and financial reward. For some others, research is only a wasteful exercise, only beneficial for academics. Hence, the need to emphasise to them the implications of this research.

ii There were problems of the names used by many African-Caribbean businesses. Many of them had Anglo-Saxon or French names. This made it difficult to identify and target the relevant business owners. By physically walking down the high roads and side roads, seeing and talking to the business owners, it was possible to minimise the number of people who were sent questionnaires in error.

iii There was undisguised fear and apprehension among some of the respondents thinking that there were some sinister and hidden intentions behind the survey. To allay the fears, it was necessary to explain and convince the respondents that the survey was being carried out as part of University study. An introductory letter from the University helped convince a lot the respondents.

iv Some of the questionnaires were filled in but could not be counted owing to illegibility. Others were soiled and rendered useless by the respondents. Because of anonymity, the questionnaires in these categories could not be traced to any respondents and thus had to be discarded.

v Some problems were experienced with the questionnaires that were sent through the internet. First, only a few businesses in the directory actually had e-mail addresses. This is much lower than would have been expected in this age of Information Technology (IT) and e-business. Some of the respondents claimed that they were unable to download the attached file while others complained of broken down hardware, e.g., printer, etc. These and other similar complaints rendered the online approach non-productive in this study.

Categorisation of entrepreneurs

For the purposes of this study, four main categories of entrepreneurs were identified (Chell et al., 1991). These categories can be seen as grades or levels of entrepreneurs. The research identified and adopted four main categories of entrepreneurs:

- *Prototypical Entrepreneur*: (A real entrepreneur with most of the entrepreneurial attributes).
- *Prototypical Quasi-Entrepreneur* (Nearly real entrepreneur, possessing many entrepreneurial attributes but not as much as the Prototypical Entrepreneur).
- *Prototypical Administrator* (or Intrapreneur) (A good administrator, but does not own the Capital and as such runs no personal risk).
- *Prototypical Pseudo-Entrepreneur*. (Not really an entrepreneur. Does not possess the attributes of an entrepreneur).

Each of these categories exhibits certain combinations of entrepreneurial attributes that allow one to recognise entrepreneurs who fall into them.

The main entrepreneurial attributes

The main purpose of the questionnaire was to collect information that will help in classifying or categorising the business owners with regard to their levels of potential

entrepreneurship. These attributes were derived from different theories of entrepreneurship: McClelland (1987), Timmons et al. (1985, p.35), Chell et al. (1991), Schumpeter (1911), Knight (1921), Kirzner (1973) and Cantillon (1931).

As these constitute the main attributes used for categorisation, it would be necessary to explain the relevance and importance of each to entrepreneurial success.

These attributes and details are:

a Alertness to business opportunities

One of the most important attributes of a true entrepreneur is that he or she is alert to business opportunities – constantly looking out for new avenues, bargains and rare products. The buzzword for such a person is "*Can I make something here?*" If the answer is yes, it is most likely that he or she will embark on the project. People in this category are often seen with business and financial papers, newspapers, journals and trade magazines, etc. They are on the look out and eager to associate any new findings with some form of business or the other. To determine the presence of this attribute in the respondents, a series of questions are asked. The reason for using a series of questions instead of a direct question, e.g., "*Are you alert to business opportunities?*", is that a direct question seems to be 'leading' and most people would want to say that they are alert. However, in the questionnaire, the respondent does not know what inference the researcher requires and simply answers the series of questions. Whether the final assessment is yes or no will depend on the researcher's interpretation of the answers given. It is possible to deduce from answers given, e.g., as to how often one looks for new businesses, whether one investigates any new business proposals or simply throws them away, if the respondent is alert to business opportunities or not.

b Pursuance of opportunities regardless of current resources

The second question on the questionnaire aims to find out if the respondent has the courage, self-belief and faith to pursue a business project irrespective of his or her current resources, e.g., savings and income. A prototypical Entrepreneur will pursue a project in which there is a good chance of success. Such business people believe in themselves and believe in success. They are, therefore, not put off by the limited resources they may have now, believing that success in the venture will bring some flexibility and capital.

This attribute invariably endows one with further attributes like self-confidence, persistence, persuasion, expertise and information seeking (McClelland, 1987). It is with these attributes that a prototypical entrepreneur will tend to pursue a venture irrespective of his or her present financial resources. They argue that "entrepreneurship is an approach to management", which they define as "the pursuit of opportunity without regard to resources currently controlled (Stevenson et al., 1989 p.7). In their argument, they state that the entrepreneur is the person who feels confident of his or her ability to seize opportunity regardless of the resources under current control, whereas the trustee or administrator emphasises the efficient use of existing resources (Stevenson et al., 1989, p.104).

c Adventurous nature of entrepreneur

One of the aims of the questionnaire was to discover whether the businessperson has adventurous streaks in his or her personality. It is well known that entrepreneurs are usually

looking for action and feel bored when things are not happening. This results in visible restlessness and need to constantly modify their environment to create stimulation (Chell et al., 1991, p.71). Some of the coping behaviours include pursuing dangerous and adventurous enterprises as was demonstrated by British Billionaire Entrepreneur Richard Branson in his Round-the-world Balloon attempt. It is significant that one of his rivals was another multi-millionaire entrepreneur, the American businessman, Steve Fosset who also made several attempts to cross the world in a hot-air balloon. The exploits of these two acclaimed entrepreneurs therefore buttress the assumption that a prototypical entrepreneur is adventurous in nature. In other instances, the adventurous nature is manifested by the entrepreneurs embarking on ventures, which no other person has tried before – irrespective of the risks, or investing their entire resources in projects for which there is much less than 100% success probability.

d 'Ideas' person

Entrepreneurs are known to be people who are 'buzzing' with ideas. They are able to think up ideas where none seems to exist.

> "Entrepreneurship is the ability to create and build something from practically nothing. It is initiating, doing, achieving and building an enterprise or organisation, rather them just watching, analysing or describing one. It is the knack of seeing an opportunity where others see chaos, contradiction and confusion." (Timmons, 1989, p.1)

The ideas person is more likely to introduce his or her own method of doing things rather than copying what others have done. In doing so, one can describe them also as imaginative and innovative.

e Restless/easily bored

Contrary to expectations, the life of an entrepreneur tends to be boring and restless. This is because it is consumed by business considerations. When not worrying about new business opportunities, the entrepreneur is worrying about the success/failure of existing ventures. These worries cause a state of restlessness. Most entrepreneurs who find themselves in this situation take steps to remedy the situation. In some cases, they embark on adventures and existing ventures to counter the boredom.

f High profile image-maker

Successful entrepreneurs are forced to become high profile image-makers. This is because in the process of developing a business, they strive for the best, seeking opportunities to enhance the visibility of the company through the development of an image or product concept. In doing so, they promote themselves by developing complex and elaborate business networks, thus establishing the reputation of the company and creating a high profile. Instances abound where entrepreneurs have personally fronted the advertisement of their products. Examples include Richard Branson, Bill Gates, Setelios Haji-Ioannou and J.K. Rowling. Entrepreneurs are very selective over which avenues of advertisement they choose. They carefully select which newspaper they advertise their products in. Image making for some entrepreneurs also requires them being seen in some particular places, e.g., on TV, watching tennis at Wimbledon, or horse racing at Ascot.

g Proactive personality

One of the most important attributes of a typical entrepreneur is the proactive personality. A "proactive personality" can be

defined as one who is relatively unconstrained by situational forces and who effects environmental change. Proactive personalities identify opportunities and act on them; they show initiative, take action, and persevere until they bring about meaningful change. In contrast, people who are not proactive exhibit the opposite patterns. Grant (1996) showed that proactivity explained significant incremental variance in entrepreneurial intentions above and beyond that explained by the other variables.

h Innovativeness

Innovativeness is one of the most vital attributes of an entrepreneur. According to Schumpeter (1911, pp.34–77), the entrepreneur innovates and thereby creates these 'new combinations'.

They may result from:

- creation of a new product or alteration in its quality
- development of a new method of production
- opening of a new market
- capture of new source of supply
- new organisation of industry.

He or she recognises that mere management decision-making based on established grounds is not part of entrepreneurial function. This is because it fails to bring what is considered to be Salient point and the only one that specifically distinguishes entrepreneurial from other activities, i.e., the carrying out of a new combination.

Codification of responses

Of the 400 questionnaires distributed, 150 were returned usable. Each of the 150 questionnaires was analysed to determine whether the respondents possessed the attributes. Answers that lead to possession of the given attributes are coded *yes* and (1 while answers that indicate that the respondent does not possess the attribute result in a code of *no* or (0). The reason for using '0' and '1' is that the NN requires such values to perform its calculations and iterations since it works on binary principles.

This will invariably allow the researcher to determine what proportion of the whole sample possesses this attribute. In this case, we may use the mean, average or percentage value for assessment and deduction purposes. This also makes it easy for the NN programme, which works on the binary format.

Classification using the Artificial Neural Network model

Artificial Neural Networks (ANNs), also simply known as 'neural nets', are also referred to as connectionist models or parallel distributed processing models. A detailed description of the history and development of the ANN is beyond the scope of this study however very 'deep' insights have been given by several authors such as Dewola and Naiim (1991, pp.1–9), Pandya and Boyd (1995), Chell et al. (1991, pp.77–83), Zadeh et al. (1975), Wasserman (1989), Okonta (2005) and Everitt and Dunn (2001, pp.264–268). The computer software used for this research is the *Easy NN 8.01. EasyNN 8.01* not only analyses each respondent's answers but also records, and prints out the different combinations and their final network output. It is also easy to monitor the progress of the network during training. It can be adapted to work on Microsoft excel. With all these information available, it is easy to determine whether one is satisfied with the training of the network or not. Only when

one is satisfied that the network has been fully and sufficiently trained, i.e., the error between the target output and the network output has been minimised, or that the computed network error is below the target error, should the network be used for subsequent classification of the input patterns.

Testing the reliability of classification

To test the reliability and consistency of classification, some of the training inputs were designated *verification inputs*. In all, 16 input patterns representing prototypical entrepreneur, quasi-entrepreneur, administrator and pseudo-entrepreneur were presented to the network for training purposes. After training was achieved, five of the training patterns were re-designated *'Verification Patterns'*. The Network was able to classify all the verification patterns in the same way each time thereby indicating consistency and reliability.

Tests showed that the classification was consistent each time with the entrepreneurial characteristics. Classification may become debatable in borderline or fuzzy cases. This situation cannot be avoided, as even humans will sometimes be undecided if two patterns are so near the border of two categories.

Training and learning of the network

This is a very important aspect of the NN model. When a network has been fully trained, it is capable of classifying any input pattern based on its training parameters. The network used in this study was a *3-layer back-propagation network*, i.e., an input layer, one hidden layer and an output layer.

For training purposes, 16 patterns exhibiting different combinations of characteristics and attributes corresponding to each of the four prototypical categories, i.e., entrepreneur, quasi-entrepreneur, administrator and pseudo-entrepreneur, were presented to the network. For each of these patterns, there are eight inputs in the input layer, each corresponding to an attribute as defined earlier. There are four 'target' outputs in the output layer corresponding to four categories of business owners. As required by the network analysis, the target is coded '1' if the respondent or the firm is an instance of the category and '0' if it is not.

Although these were not the default values for the Easy NN, they were regarded as desirable to achieve an adequate training. Each of the 16 attribute patterns was presented to the network and the process was repeated over several times until the criterion of satisfactory learning (*i.e., Error ≤ Target Error* between the network output and required output) has been achieved. After each cycle, the network is given a feedback on the correctness of its output so that the weights on the connections between the processing units can be modified. After each cycle, i.e., after all the 16 patterns have been processed, the network adjusts the weights in such a way as to reduce the difference (*error*) between the network output and the desired output. The network continues to train until the maximum unit output error is less than or equal to the target error (0.0500) in this case. As a result of the training, the difference between the trained network output and the target output never exceeds 0.0500.

Classification process by neural network

Once the network has been sufficiently trained to be relied upon for categorisation purposes, attribute patterns for the 150 African-Caribbean business owners are then presented to the network. The

network deals with each pattern, performs several cycles of iterations, back-propagates the error calculated, adjusts the weights of the inputs and performs the iterations over and over, until it achieves an error less than or equal to the target error. At this point, the network then calculates the network output value. This value is usually between 0 and 1.0. Values less than 0.50 are regarded as 0 and values equal or greater than 0.5 are regarded as 1.0.

Thus, for each set of attributes, a *network activation output value* is calculated to indicate whether that set is an instance of a particular category.

Where this value:

$x > 0.5$, it is estimated to 1.00 and the set is an instance of that category

$x < 0.5$, it is estimated to 0 and set is *not* an instance of the category

$x = 0.5$, this indicates a fuzzy situation (borderline case).

The 150 Business owners were classified according to which category they belong. The results are shown later in Table 1.

Categorisation by the E-factor model

This approach involves assessment of the different attributes of the entrepreneur, arranging them in order of their importance, assigning weights to them and computing the Entrepreneurship Factor (i.e., the Entrepreneurship potential – *E*-Factor), for the entrepreneur.

For example, let us suppose that there are eight different attributes, $x_1 \ldots x_8$ similar to those used in the ANN model, and let us assign weights $w_1 \ldots w_8$ to each attribute. The sum of the weighted attributes for each pattern will determine how close to a prototypical entrepreneur that pattern is:

Thus, let x be the attribute and w be the weight

Then $E = \sum(x_i w_i + \ldots x_n w_n)$

where E represents the *E*-Factor (i.e., level of entrepreneurship potential of that business owner).

Features of E-Factor model

This method of analysis is characterised by the following:

The selection of attributes is influenced by the researcher's opinion, skill and knowledge of the dynamics of the African-Caribbean business environment. This is also backed by grounded theories on entrepreneurship. Assignment of weights is also based on the opinions of the respondents during the field research as to what factors they consider important for their business, skill and knowledge of the theories of entrepreneurship.

These features may well lay this model open to criticism of subjectivity. However, to reduce subjectivity, a business owner either possesses an attribute (and is assigned a value of '1') or does not possess the attribute (and is assigned a value of '0'). This assumption conforms to the concept of prototypicality (Rosch, 1978; Rosch et al., 1976).

For example, consider the following attributes x_1–x_8 and weights w_1–w_8 attached to them, then the weighted value of each attribute will be xw. Suppose the weights are distributed as follows:

$$x_1, \quad w_1 = 10$$
$$x_2, \quad w_2 = 9$$
$$x_3, \quad w_3 = 8$$
$$x_4, \quad w_4 = 7$$
$$x_5, \quad w_5 = 6$$
$$x_6, \quad w_6 = 5$$
$$x_7, \quad w_7 = 3$$
$$x_8, \quad w_8 = 2.$$

Suppose following the principles of prototypicality, we assign $x = 1$ where the attribute is present and $x = 0$ where the attribute is missing the highest value for $E = \Sigma(x_1 w_1)$ will be the sum of $\Sigma(1 \times 10) + (1 \times 9) + \ldots (1 \times 2) = 50$, i.e., the business person possesses all the attributes of a prototypical Entrepreneur. Conversely, the lowest value for E will be $\Sigma((0 \times 10) + (0 \times 9) \ldots (0 \times 2)) = 0$, i.e., the business owner does not possess any of the above-mentioned attributes of a prototypical entrepreneur.

These two scores, therefore, form the extremes of the spectrum of the classes of entrepreneurs between a *prototypical entrepreneur* and a *prototypical pseudo-entrepreneur*.

Classification process

This approach yields a continuous classification and category boundaries will then need to be set by individual user or analyst. For our purpose, the business owners were classified into four categories:

50–40 Prototypical Entrepreneur

39–30 Quasi-Entrepreneur

29–20 Administrator

19–0 Pseudo-Entrepreneur

There are no hard and fast rules about the scores and classification. Individual users can set different limits but the main point to note is that the lower the value of '*E*' the further away the business owner from a prototypical entrepreneur is.

RESEARCH FINDINGS

From the analysis carried out earlier, the following findings and deductions can be made.

Categorisation of business owners

One of the main objectives of this research was to assess and categorise African-Caribbean business owners (not undertaken by any researcher prior to this study) with a view to determining whether they as a group are lacking in the attributes, which facilitate entrepreneurship or not. The result of the categorisation of 150 African-Caribbean Business owners in London using the ANN model was as follows (Table 1):

From the above-mentioned results, it can be seen that a vast majority of business owners were classified as *prototypical*

Table 1 Categorisation of African-Caribbean business owners in London

Category	*No.*	*Percentage*
Prototypical entrepreneur	72	48
Prototypical quasi entrepreneur	30	20
Prototypical administrator (intrapreneur)	18	12
Prototypical pseudo-entrepreneur	30	20
	150	100

Source: Okonta (2003)

entrepreneurs. A total of 48% fall into this category. On the other extreme, 30 Business owners or 20% are categorised as *prototypical pseudo-entrepreneurs*. These are business owners who do not have the attributes of entrepreneurs and are more likely to fail, even when the environmental circumstances are favourable. From these analyses, a further 30 Business owners or 20% are categorised as *prototypical quasi-entrepreneurs*. These are business owners who have most of the attributes required for entrepreneurship, but at slightly lesser degrees than the prototypical entrepreneurs are. Eighteen business owners, i.e., 12% of the sample, are categorised as *prototypical administrators*. These are business owners who possess some but not enough of the attributes required for entrepreneurship. They tend to make better managers and administrators than entrepreneurs.

Analysis using the E-Factor method

The responses of the 150 business owners were analysed as described earlier, using Microsoft excel spreadsheet programme. The main points to be observed from the analysis are shown in Table 2.

From these findings, and based on the fact that a majority of the business owners in the sample were categorised as prototypical Entrepreneurs, one can see that there is no evidence to support the assertion that African-Caribbeans as a group do not have the attributes for entrepreneurship. The situation becomes even more significant if one considers that those classified as prototypical quasi-entrepreneurs are also capable of entrepreneurship. It means that if both categories are combined, we obtain a total of 102 business owners or 68% (by ANN Model) and 98 business owners or 65% (by *E*-Factor Model) of the sample who have the attributes of entrepreneurs.

From the analysis of the categorisation by NN approach and the *E*-Factor approach, the findings do not support the hypothesis that the poor performance of African-Caribbean businesspersons in the UK is because they lack the attributes and abilities for entrepreneurship.

Testing the research hypothesis

From the survey carried out and the categorisations obtained, the research hypothesis can be tested to see whether to accept or reject it. The tests here are performed on the statistical results from the NN and *E*-Factor analyses using a one-tail test at 5% and 1% levels of significance (95% and 99% levels of confidence).

To perform these tests, we need a Null hypothesis, H_0 (the hypothesis to be tested), and an alternative hypothesis, H_1 (the hypothesis to be accepted if the null hypothesis is rejected.)

The Null Hypothesis H_0: African-Caribbean businesspersons in the UK lack the attributes necessary for entrepreneurial success. They are, therefore, Pseudo-entrepreneurs.

Table 2 Categorisation of African-Caribbean business owners in London, using the *E*-factor model

Score	*No.*	*(%)*
50–40	67	44
39–30	31	21
29–20	25	17
19–0	27	18

Source: Okonta (2003)

The alternative Hypothesis H_1: African-Caribbeans in the UK do not lack the attributes necessary for entrepreneurial success. They are therefore not Pseudo-entrepreneurs.

Testing the hypothesis with the neural network results

Using the results and classifications from the NN model (Table 1), we can test the hypothesis. Basically, the hypothesis can be interpreted in terms of the proportion of the African-Caribbeans expected to be classified as pseudo-entrepreneurs. In this case, it is assumed that the hypothesis must be accepted if a majority of the sample are classified as pseudo-entrepreneurs, i.e.,

$$H_0 > 50\%$$

where H_0 is the hypothetical proportion (Lucey, 1984, pp.65–84)

From the NN categorisations, the actual proportion of pseudo-entrepreneurs p is 20% whereas the non-pseudo-entrepreneurs q is 80%.

We can, therefore, say in terms of proportions that:

$$p = 0.20$$

and

$$q = 0.80$$

therefore the standard error of proportion, $s_p = \sqrt{(pq/n)}$

$$s_p = \sqrt{(0.20\ (0.80)/n)}$$

$$s_p = 0.0326.$$

The z score for this sample using the proportion standard deviation, the observed and hypothetical proportions can, therefore, be calculated as:

$$z = (p - H_0)/s_p$$

where p is the observed proportion, Ho is the hypothetical proportion, 50% or 0.50 and s_p represents the population standard deviation (because the sample size is larger than 30)

therefore

$$z = (0.20 - 0.50)/0.0326$$

$$z = -9.20.$$

One-tailed test at 5% level of significance

At 5% level of significance for a one-tailed test, the appropriate value for z score is 1.65. Since the calculated z score value is less than 1.65, it follows that less than 50% of the sample are pseudo-entrepreneurs. The hypothesis must, therefore, be rejected.

One-tailed test at 1% level of significance

Sometimes, it is possible to erroneously reject a correct hypothesis. This is known as 'type I' error. To minimise the chances of this type of error, the hypothesis is subjected to a more rigorous test, at lesser level of significance (i.e., a higher degree of confidence).

In this case, the hypothesis is tested at 1% level of significance (99% level of confidence). At 1% level of significance for a one-tailed test, the appropriate value for z score is 2.33. Since the calculated z score value is less than 2.33, it follows that less than 50% of the sample are pseudo-entrepreneurs. The hypothesis must, therefore, be rejected.

Testing the E-Factor results

From the results of the *E*-Factor analysis, the categories are as follows:

50–40 Entrepreneurs

39–30 Quasi-entrepreneurs

29–20 Administrators

19–0 Pseudo-entrepreneur

Thus, the null hypothesis can be interpreted as:

$$H_0: \quad E \leq 19$$

and the alternative hypothesis can be interpreted as

$$H_1: \quad E \leq 19.$$

From the survey carried out, results from 150 respondents yielded the following statistics:

Sample size, $n = 150$

Sample mean, $x = 33.61$

Sample Std. Deviation, $s = 12.66$

Sample Standard error = $s/\sqrt{n} = 12.66/\sqrt{150} = 1.033$.

One-tail test at 5% level of significance

The Hypothesis that $E \leq 19$ will be accepted if $s - 1.65\ (1.033) \leq 19$.

For sample mean $x = 33.61$,

$E = 33.61 - 1.65\ (1.033)$,

$E = 33.61 - 1.704$

$E = 31.91$.

Since $31.91 > 19$, it indicates that the average respondent had an *E*-Factor score higher than 19. The hypothesis must, therefore, be rejected at 5% level of significance.

One-tail test at 1% level of significance

As a further control against type I error, the hypothesis is tested at a lower level of significance (i.e., 1%).

The Hypothesis that $E \leq 19$ will be accepted if $s - 2.33\ (1.033) \leq 19$

For sample mean $x = 33.61$,

$E = 33.61 - 2.33\ (1.033)$,

$E = 33.61 - 2.41$

$E = 30.75$.

Since $30.75 > 19$, the average *E*-Factor score of the respondents is higher than 19. The hypothesis must, therefore, be rejected at 1% level of significance.

The alternative hypothesis must, therefore, be accepted, i.e.,

> "African-Caribbean businesspersons in the UK do not lack the attributes necessary for entrepreneurial success. They are therefore not Pseudo-entrepreneurs."

CONCLUSIONS

The above-mentioned tests at 5% and 1% levels of significance (95% and 99% confidence intervals) clearly indicate that the null hypothesis should be rejected. In other words, African-Caribbean businesspersons in the UK are not devoid of attributes necessary for entrepreneurial success and are therefore not Pseudo-entrepreneurs.

A major significance of this finding is that possession of entrepreneurial attributes does not depend on ethnicity but on individuality. The research did not find enough evidence to link enterprise with culture or ethnicity. The poor entrepreneurial

performance of African-Caribbeans is not necessarily linked to culture or ethnicity but to a complex array of factors, some completely outside the control of the ethnic group. Unlike some authors' propositions, no one race or ethnic group has a monopoly of entrepreneurship. Equally, no one race or ethnic group is devoid of the attributes for entrepreneurship. As with other people, African-Caribbean entrepreneurship is influenced by several conditions, e.g., the political, social and economic environment as well as personal attributes quality, dispositions and resources.

This research investigates very important and sensitive issues. Although it is largely a business research, it could not avoid or ignore the social, economic and political ramifications. By and large, there is something for a wide variety of interest groups each learning different lessons. The following are the most important interest groups:

The business owners

As a result of this research, a sort of mapping has been performed for the 150 respondents who participated. Each respondent can now find out what category he or she belongs to. Appendices 9 and 10 illustrate the different categories as determined by the NN and the *E*-Factor models.

Central government

The Government will take note that the average African-Caribbean businessperson in the UK has the necessary potential for business entrepreneurship. The research has also discovered that many of the business owners regard racism as a very serious problem (Okonta, 2003). Although the Government is already aware of the existence of racism in other spheres of life, the findings of this research on the extent of racial discrimination in business will cause serious concern to the Government. Armed with the findings, the Government can then review its policies regarding Bank operations and other aspects that affect the business lives of the African-Caribbeans.

The Commission for Racial Equality (CRE)

The CRE, which is charged with promoting equality among the various races in the UK, will be particularly interested in the various findings of the research. Such findings will be studied and representations made to the various relevant authorities. The Commission will be able to review its policies, redirect its efforts and modify its attitude towards different interest groups. The Commission can also initiate more robust research into the area of racial discrimination in business and entrepreneurship.

Local authority

Just like the Central Government, the Local Authorities will take note that the average African-Caribbean has the necessary potential for business entrepreneurship. Each local authority will assess the population of African-Caribbean within its jurisdiction. This will help it decide what policies to embark upon and how to review old policies.

Banks and providers of capital

The findings of this research are particularly relevant to Banks. They have been found to be discriminating and apathetic towards the African-Caribbean business owners. The findings will influence their views on the African-Caribbean entrepreneurs. They could make the Bank Managers review their stereotype and their apathy towards the group and rather than treat ev-

eryone as a group they will now assess each businessperson as an individual customer.

The research method and findings could be of immense importance to Bank Managers in their decision-making strategies on loans and advances to individual business owners. The manager could now insist on having prospective borrowers classified before being given a loan. It means that business owners classified as pseudo-entrepreneurs will be unlikely to receive any loans or advances. Alternatively, they could be given loans only under certain supervisory conditions. This will reduce their risk and losses to a great extent. The research, therefore, provides them with one more management tool.

Students of African-Caribbean studies

The research provides a tremendous amount of information and data on African-Caribbeans in the UK. It provides ample information on the business and entrepreneurial dynamics of the group and will be a useful source of information not only on African-Caribbeans but also on the theories of entrepreneurship.

Small-scale businesspersons

The research contains substantial information that will be useful to the small- and medium-sized businessperson, especially from Ethnic minority groups. Specifically, African-Caribbean businesspersons will find the contents very useful in understanding the nature of the entrepreneur as a risk bearer, coordinator, owner, decision-maker, speculator and innovator. Some of the recommendations will be useful to the different communal organisations in making themselves more entrepreneur-oriented as opposed to just being social clubs.

FULL RESEARCH REPORT

For the full research report please see at The British Library, London Or Business School, University of East London.

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