

An Empirical Examination of the Effect of Entrepreneurs' Biological Makeup on the Firm Performance

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Abstract: In an attempt to investigate how entrepreneurs biological makeup contributes to the firm performance, a cross-sectional study of questionnaire survey research design was conducted and data was generated from 182 entrepreneurs of small firms in both manufacturing and service industries in Lagos, Nigeria. The questionnaires were distributed through drop-off and pick up procedure of data collection. As a whole, the findings indicate that there is a significant relationship between entrepreneurs' biological makeup and firm performance. However at the dimensional level, the results show that family background, childhood experience, friend influence and relative influence were not significantly related to firm performance while it was indicated that entrepreneurs early business exposure significantly affect firm performance. Based on the finding, it is concluded that entrepreneurs' biological makeup as well as early business exposure is important in achieving firm performance. It is hoped that the findings of this study would be beneficial to researchers, entrepreneurs, business-owners as well as policymakers in government.

Key words: Entrepreneurs, biological makeup, business exposure, childhood experience, firm performance

INTRODUCTION

Right from the time of Cantillon (1755), Say (1821) and Schumpeter (1934) entrepreneurs have been known that play significant roles in the economy, especially in the areas of economic development, employment generation, new venture start creation, wealth creation and reviving old businesses. For instance, Rebecca and Benjamin (2009) noted that the strategic role of entrepreneur as an agent of economic transformation is noticeable in wealth and job creation and promotion of indigenous entrepreneurship and entrepreneurial culture. The activities of the entrepreneurs are also visible in the promotion of Small and Medium Enterprises (SME) which consequently affect the socio-politico-economic life of the people. This sector accounts for about 88% of the small scale industries while 12% is credited to the medium industries in Malaysia. In Singapore alone, SMEs absorbs half of the working population and consequently contributed about a third of the total value-added, forming 92% of their total number of the industrial establishments which include manufacturing, commercial and service sectors (Chea, 2009). Rebecca and Benjamin (2009) reported that the small and medium scale firms have been increasing to the extent that they account for about 70% of the industrial employment while the agricultural sector tends to absorb more 60% of the county's workforce.

Okpara and Wynn (2007) affirmed that SMEs contributes about 20-45% full employment and equally contributes about 30-50% to rural income which are mostly household. Akande and Ojukuku (2008) noted that SMEs have greatly contributed in the creation of jobs, innovation and to economic growths which has been given a global acknowledgement and recognition.

However, entrepreneurs may not effectively discharge these roles and achieve better firm performance or success except certain factor such as entrepreneurs biological makeup plays a crucial function (Lucky *et al.*, 2012). With respect to this, previous studies have highlighted the importance of entrepreneurs' biological makeup that is entrepreneurs' immediate childhood environment in achieving entrepreneurial success as well as firm performance (Ogundele, 2007; Ogundele and Abiola, 2012). For instance, the studies by Carr and Sequeira (2007) and McClelland (1967) on the psychology of entrepreneurship affirmed that psychological element such as the biological makeup of an individual goes a long way to determine his success or failure with regard to firm performance. On the influence of entrepreneurs' biological makeup on the firm performance, the studies by Lucky (2011), Lucky and Minai (2012) and Ogundele (2007) have associated entrepreneurs' biological makeup to the firm performance; however, these studies only considered entrepreneurs' biological makeup as a

lump-sum that is as a dimensional or sub variable rather than as an independent variable on its own. This could affect the extent to which this variable could predict firm performance. Therefore, may not provide an adequate understanding on the actual influence of entrepreneurs' biological makeup on the firm performance. This, therefore, suggests that there is a need to look at biological makeup as an independent variable rather than as a lump-sum as doing so will improve the understanding on the extent to which entrepreneurs' biological makeup on its own could predict firm performance. Apart from this, Lucky and Minai (2012) and Man *et al.* (2002) have argued that investigation of success factors on the firm performance is ongoing and still deserves further attention particularly in the study of entrepreneurial and business management. As a result, this study investigates the effect of entrepreneurs' biological makeup on the firm performance.

Literature review

Entrepreneurial biological makeup and firm performance: The biological make up is associated with the entrepreneurs' immediate childhood environment such as the family. Thus, it is concerned with the family background of the entrepreneur and business owners as well as their immediate childhood environment. Biological makeup is part of the long list of the individual characteristics or traits of the entrepreneurs (Ogundele, 2007). The theory of psychology of entrepreneurship has affirmed that psychological element like the biological makeup of an individual goes a long way to determine his success or failure with regard to firm performance (Carr and Sequeira, 2007; McClelland, 1967). These are inborn characteristics found within an individual which contribute to their success as well as to their firm performance (Fig. 1). This is consistent with the widely held view is that family background/childhood experiences, exposure in business and previous job experiences influence the development of entrepreneurial-related attitude and consequently affect the firm's performance (Carr and Sequeira, 2007). In fact, Carr and Sequeira (2007) has documented that the biological makeup which relate to the family background greatly influence entrepreneurial performance. They further argued that in particular, research, specifically related to entrepreneurial behavior has shown that

entrepreneurs and business owners often have a family history where their mother or father was self-employed.

It has been observed that, in some cases, many entrepreneurs/business owners have indicated that they were often placed in positions of responsibility within their family's business at a very young age (Carr and Sequeira, 2007). The study pointed out that whether due to the reason of finance or other reason unknown to them, their parents also used their family business as a means to teach them the skills, values and confidence required to own businesses. This singular family background training of owning and handling business at a very tender age is enough to succeed in business when compared to someone without a family business background, this kind of people are more likely to fail in handling a business. Hence, biological make up significantly influence firm performance.

In the sport domain, the black Americans have been noted to have athletic superiority due to their biological makeup which many believed that black people possess certain attributes acquired through biological makeup as well as the immediate childhood environment which has made them excel over other races in some sport competitions such as the athletics (Buffington and Fraley, 2008). Also, the biological theory of personality development posited that whatever human being or a person becomes in his lifetime can be directly or indirectly linked to the biological makeup as well as to his immediate environment. The theory argued that the genetic makeup determines at least in part, the personality. Thus, biological components strongly determine the physical characteristics (Allpsych, 2011).

The study conducted by Wadhawa *et al.* (2009) on the anatomy of an entrepreneur; family background and motivation revealed that entrepreneurs biological makeup in the form of background contribute to a higher growth of their industry. The result indicates that 37.8% of the respondents who are entrepreneurs agreed that the biological makeup such as family and friend influences played crucial roles in their entrepreneurial success as well as to the success of their firm while 27% of the respondents affirmed that their co-founder's influence was a significant contributor to their industry success and performance.

Most recently, the empirical studies conducted by Lucky (2011) showed that entrepreneurs' biological makeup significantly determines firm performance. They affirmed that entrepreneurs' biological makeup is a crucial element among the variable that will predict the firm performance. However, one major weakness of these studies is that they only examined the biological makeup

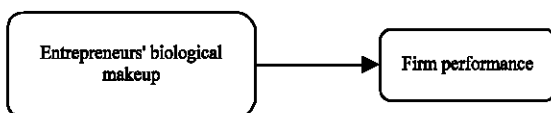


Fig. 1: Research model

as an element or dimension of the variable individual determinant in their various studies. Therefore, this might not give a clear picture of the extent to which entrepreneurs' biological makeup will influence firm performance. Hence, this present study identified and treat entrepreneurs' biological makeup as an independent variable rather than a lump-sum. The essence is to provide a wider understanding of the influential power of the entrepreneurs' biological makeup.

Firm performance: Trkman (2010) noted that performance measure is indispensable for entrepreneurial and small firms because it helps them to ascertain the success or failure of the firm and also acts as an indicator to achieve sustainable improvement in entrepreneurial and business activities. Accordingly, Murphy *et al.* (1996) argued that accurate performance measurement is critical to understanding new venture and small business success and failure. Furthermore, small firm performance measurement has been viewed in two major dimensions; the financial and non-financial. Thus, researchers are divided on which of these small firm measurement best measure performance. In this case, some of the researchers argued that financial measures of small firm performance are the best indicator of performance (Murphy *et al.*, 1996). This may be due to the fact that the financial measure such as profitability seems to cover the overall objective of many firms in which small firms are not left out. Indeed, financial measure is the primary measure of a firm success and performance. Within the context of small firms and entrepreneurship development, Murphy *et al.* (1996) argued that financial measures of small firms seem to be commonly and widely used. In this case, they argued that in the academic field and as well as entrepreneurial field financial indicators seem to gain the upper hand when discussing performance. This may be due to the ease with which it can be used in ranking and judging how a firm is performing in its business operations or activities. The financial measure of performance includes profit and growth. On the other hand, the non-financial measure of performance which is equally referred to as operational measure is also used in measuring small firm's performance (Murphy *et al.*, 1996). For instance, Ittner and Larcker (2003) argued that non-financial performance measure helps managers and owners to ascertain the progress of the business, although it has been proved to be difficult to manipulate unlike the financial measure. Campbell (2007) asserted that non-financial measure seems to complement the financial measure in determining firm's overall performance and success.

The arguments mentioned earlier indicate that one set of firm performance measurement may not be sufficient enough to measure firm performance; therefore, there is a need to adopt both financial and non-financial performance measure as suggested by Venkatraman and Panigyrakis. They asserted that it is very important to adopt both financial and non-financial indicators in measuring entrepreneurial performance since it may offer a broader perspective of measuring performance and thus tend to clarify the relationship between financial and non-financial aspects of entrepreneurial performance under investigation. Accordingly, Murphy *et al.* (1996) suggested that researchers in both small firm and entrepreneurship field should always consider multiple dimensions of both financial and non-financial methods of measuring small firms' performance in order to arrive at a better measurement. Justifying these further, Dimitratos *et al.* (2004) argued that due to the arguments about small firm performance measurement in which researchers have taken different stands researchers should use and justify at least 2 different dimensions of firm performance which they argued to be both financial and non-financial measures. In line with the mentioned above arguments and considering the uniqueness of the small firms, using a single dimension of small firm performance might not give a better result. Hence, this study adopts both financial and non-financial objective measurement of profitability and growth of small firm performance. Muhammad (2009) concurred that these two indicators of financial and non-financial measures seem to be important to entrepreneurial firms as well as small firms.

Based on the previous discussions and coupled with the proposed research framework of this study, the hypothesis is below is being formulated:

Hypothesis 1: There is a significant relationship between entrepreneurs' biological makeup and firm performance:

- H_{1a}:** There is a significant relationship between family background and firm performance
- H_{1b}:** There is a significant relationship between childhood experience and firm performance
- H_{1c}:** There is a significant relationship between friend influence and firm performance
- H_{1d}:** There is a significant relationship between relative influence and firm performance
- H_{1e}:** There is a significant relationship between early family business exposure and firm performance

MATERIALS AND METHODS

Population and sampling: The study is cross-sectional with a questionnaire survey approach with a simple

random sampling technique where the small firms in Lagos State were selected as the targeted population of the study. Therefore, the unit of the analysis in this study includes the entrepreneurs. The choice of Lagos State for the study is based on the fact that 60-70% of business and industrial transactions in Nigeria is being concluded and finalized in Lagos. Lagos State alone account for >60% of the industrial value investment among the other six main industrial zones or centres in Nigeria (Adelakun, 2010; Akande and Ojukuku, 2008). The sample respondents in this study include the small firms that did register with the Lagos State Government. The respondents were identified through the Lagos State business directory obtained through the Lagos State Government website. A list of 4225 entrepreneurs was sorted out from the main lists that is comprised of other firms. However, a simple random sampling was used to select 300 entrepreneurs and owner-managers that participated in this study. A total of 230 completed questionnaires was returned filled thus, giving 77% response rate of the total sample. However, the returned completed questionnaires were further reduced to a total sample of 201 (67%) for the fact that some of the returned questionnaires were not properly filled and as such were not used for this study. Again, the sample was further reduced to 182 during the treatment of outliers and normality. Therefore, the actual sample used in this study for the analyses is 182 which gave a response rate of 61%.

Measurement of variables: The study uses the primary data collection questionnaire survey technique to achieve its objective. The questionnaire consists of 2 parts; the 1st part contained the profile of the respondents including their business while the 2nd part consists of the key variables; biological makeup and firm performance under investigation. All variables in the study were measured using a 5-point Likert scale ranging from 1 = Strongly disagree to 5 = Strongly agree was used to measure the extent to which respondents agree or disagree to each of the statement and questionnaire. Entrepreneurs biological makeup was measured using five dimensional items while the firm performance was also measured with five items comprising of the overall performance, profit and growth of the firm. The items were adopted from the various works of researchers such as Francisco and Chen (2006), Ogundele (2007), Shradha *et al.* (2005) and Murphy *et al.* (1996).

Data analysis

Descriptive analysis: Table 1 shows the descriptive analysis result of the respondents. To summarise the profile of the respondents as well as that of their firm, a

descriptive analysis was conducted and the result in Table 1 indicates that about 16% of the respondents are 30 years and below, the majority of them are between the ages of 31 and 50 representing 73% while about 12% of them are 55 years and above. For the experience, the result indicates that approximately 36% of the respondents have 10 years experience, the majority of them have 11-24 years experience representing 51% while only 13% of them have 25 years and above experience. The result further shows that approximately 15% of the respondents' businesses are located in the Lagos Mainland, the majority of their business is located in the greater Lagos representing about 82% while only 3% of them have their business located in the Lagos Islands. Also, information regarding the business sector of the respondents indicates that approximately 54% of the businesses included in the study are from the manufacturing sector while about 46% of the businesses are from the service sector.

Factor analysis: To check for the construct validity of the items as well as to see whether each items were able to measure what they intend to measure, a factor analysis was conducted. Therefore, responses from the respondents were submitted to SPSS for factor analysis with principal component analysis with a varimax rotation.

The factor analysis data regarding entrepreneurs' mental capacity identified only one component with seven factors. Nine items were originally submitted for factor analysis however only seven items were selected for further analysis. Two items specifically, items four and five were not selected a result of not meeting the minimum loading factor required for each item to be included for any factor. A minimum loading factor of 0.5 was required for each item to be included in any factor in this study (Lucky, 2011; Jackson *et al.*, 2000). Therefore,

Table 1: Descriptive analysis (N = 182)

Variables	N	Percentage (%)
Age		
<30	29	15.9
31-50	132	72.5
>55	21	11.5
Experience		
1-10 years	66	36.3
11-24 years	93	51.1
≥25 years	23	12.6
Business Location		
Lagos mainland	28	15.4
Greater lagos	149	81.9
Islands	5	2.7
Business sector		
Manufacturing/production	98	53.8
Service	84	46.2

items four and five were excluded from the further analysis. The seven items included in the factor accounted for 42% of the variance with each item associated with Eigenvalue >1. The summary statistics for this analysis are presented in Table 2.

Furthermore, regarding the firm performance, five items were submitted for factor analysis and five items were equally identified by the factor analysis. Therefore, the five items were included in the factor as they all met the minimum loading factors of 0.5 which was required for any item to be included in the factor and for further analysis in this study. The five items included in the factor accounted for about 41% of the variance with each item associated with Eigenvalue >1. The summary statistics for this analysis are presented in Table 3.

Table 2: Rotated factor loadings of entrepreneurs' biological makeup

Entrepreneurs biological makeup items	Factor loading 1
Factors	
My family business background has the influence on how I manage my business	0.720
I gathered my business experiences from my childhood experience	0.580
My friends influence my business performance	0.610
My relatives influence my business performance	0.710
My early family exposure to business activities influence my business performance	0.670
Eigenvalue	2.110
Percentage of variance explained (%)	42.260
Kasier-Meyer-Olkin	0.673
Bartlett's test of sphericity approx. Chi square	123.596
df	10.000
Sig.	0.000

Table 3: Rotated factor loadings of firm performance

Firm performance items	Factor loading 1
Factors	
My firm recorded a commendable nature of growth in sales since in the last 2 years	0.790
My firm recorded increment in marketshare	0.800
My firm recorded commendable growth in profit in last 3 years	0.860
My firm commendable profit after tax on sales	0.790
My firm overall business performance and success is commendable	0.740
Eigenvalue	3.200
Percentage of variance explained (%)	40.600
Kasier-Meyer-Olkin	0.844
Bartlett's test of sphericity approx. chi square	391.287
df	10.000
Sig.	0.000

Table 4: Cronbach's Alpa, means, standard deviations and correlations of the variables (N = 182)

Variables	α	M \pm SD	1	2	3	4	5	6	7
Family background	0.74	0.49 \pm 0.31	1						
Childhood experience	0.77	0.52 \pm 0.31	0.264**	1					
Friend influence	0.76	0.49 \pm 0.31	0.212**	0.219**	1				
Relative influence	0.74	0.49 \pm 0.31	0.415**	0.164*	0.419**	1			
Early family exposure	0.76	0.51 \pm 0.31	0.348**	0.323**	0.168**	0.226**	1		
Biological makeup	0.66	0.50 \pm 0.20	0.692**	0.605**	0.622**	0.686**	0.637*	1	
Performance	0.82	0.52 \pm 0.18	0.099	0.084	0.070	0.027	0.177*	0.141	1

N = 182; *p<0.05; **p<0.01

RESULTS

Factor analysis results

Reliability and correlation analysis result: Table 4 represents the means, internal reliability value (Cronbach) and the correlations among variables. The cronbach alpha result indicates 0.74 for the family background, 0.77 for childhood experience, 0.76 for friend influence, 0.74 for relative influence, 0.76 for early family business exposure, 0.66 for biological makeup while 0.82 for firm performance. The correlation analysis which was used to confirm the hypotheses before further analysis indicates that only one Hypothesis (H_{1c}) was confirmed while others (H_{1a}, H_{1a}; H_{1b}; H_{1c} and H_{1d}) were not confirmed by the correlation analysis result in Table 4.

- H₁: There is a significant relationship between biological makeup and firm performance (not confirmed)
- H_{1a}: There is a significant relationship between family background and firm performance (not confirmed)
- H_{1b}: There is a significant relationship between childhood experience and firm performance (not confirmed)
- H_{1c}: There is a significant relationship between friend influence and firm performance (not confirmed)
- H_{1d}: There is a significant relationship between relative influence and firm performance (not confirmed)
- H_{1e}: There is a significant relationship between early family business exposure and firm performance (confirmed; p>0.05)

The multiple regression analysis result: Although, the result of the correction analysis has earlier indicated no significant correlation between entrepreneurs' biological makeup, family background; childhood experience, friend influence, relative influence and firm performance; however, the study went further to test for the relationship between this variable including its dimensions and the firm performance as proposed and hypothesized in the the the research framework. As a result of this, a multiple regression analysis was conducted. The significant values of each analysis conducted indicate that entrepreneurs' biological makeup

Table 5: Test result of multiple regression analysis summary for entrepreneurs' biological makeup

Variables	R ²	Adjusted R ²	F	Beta	t	Sig.
Entrepr. biological makeup	0.020	0.014	3.654	0.14	1.9	0.058***
Family background	0.010	0.004	1.789	0.07	1.3	0.183 ^{NS}
Childhood experience	0.007	0.002	1.275	0.06	1.13	0.260 ^{NS}
Friend influence	0.005	-0.001	0.890	0.05	0.94	0.347 ^{NS}
Relative influence	0.001	-0.005	0.128	0.02	0.36	0.721 ^{NS}
Family exposure	0.031	0.026	5.836	0.13	2.42	0.017***

p<0.05; *p<0.001; Sig = Significant; NS = Not Significant

and its dimensions including family background; childhood experience, friend influence and relative influence are not significant to firm performance. While the result indicates that only early family business exposure is found to be significant with firm performance (Table 5). For the construct, entrepreneur biological makeup which represents the dimensions in a lump-sum was able to explain significantly 20% ($\beta = 0.14$) of the variance in firm performance. For the individual dimensions, family background only explained 10% ($\beta = 0.07$, $p < 0.183$) variance in firm performance. Accordingly, childhood experience explained 7% ($\beta = 0.06$, $p < 0.260$) variance in firm performance; friend influence explained 5% ($\beta = 0.05$, $p < 0.05$) variance in firm performance, relative influence explained 1% ($\beta = 0.02$, $p < 0.721$) variance in firm performance while early family business exposure significantly explained 31% ($\beta = 0.13$, $p < 0.05$) variance in firm performance.

DISCUSSION

The key objective of this study is to examine the effect of entrepreneurs' biological makeup on the firm performance. To this end, the study first and foremost highlighted the importance of entrepreneurs' biological makeup through the literature review (Ogundele, 2007; Lucky, 2011). In this respect, theoretical evidences were drawn from previous studies to lay the theoretical justification or foundation for the testing of the hypothesis theorised in this study. Therefore, to test for the hypothesis, a regression analysis was conducted and the findings show that in overall that entrepreneurs' biological makeup is significantly related to firm performance. The findings, affirmed the findings of Ogundele (2007), Ogundele and Abiola (2012), Carr and Sequeira (2007) and McClelland (1967) who asserted that the biological makeup of the entrepreneurs is a crucial factor that determines his success or failure. The result suggests that entrepreneurs' biological makeup is a crucial factor to firm performance. It further indicates that entrepreneurs with a business or entrepreneurial background is more likely to achieve better firm performance than those entrepreneurs without entrepreneurial or business background.

Furthermore, on the contrary at the dimensional level, the findings indicate that family background; childhood experience, friend influence and relative influence are not significant to firm performance. This result discredits the previous findings by Carr and Sequeira (2007) and McClelland (1967). The result suggests that family background; childhood experience, friend influence and relative influence of the entrepreneurs may not affect firm performance as such. This result should be interpreted with care considering the environment upon which this study was conducted. One explanation for this result could be the high level of corruption in the government which has affected the family and the motivation for self and individual enterprises. Now, many in Nigeria prefer to work in oil companies or become a politician in order to make quick money and become very rich. For instance, an average youth in Nigeria would prefer to work in oil company or hold one political appointment to working for himself.

Finally, the result revealed that entrepreneurs' early family business exposure significantly affect firm performance. Interestingly, this result may support the notions that entrepreneurs are born and also entrepreneurs can be nurtured from the following dimension. Physically, they are actually born the same as other babies but to the business families whom their parents are at the early stage of their businesses. This makes them exposed to the early business challenges that include all sort of difficulties. Such situation makes them aware of the business challenges and in a way prepare them to be successful entrepreneurs in the future. In the different perspective, they are being nurtured to become entrepreneurs during the early stage, during their childhood though the observation and family experiences of business survival at the early stage of family business development. They are nurtured indirectly to possess the awareness and understand the criteria to success based on the parents' experience. This finding is consistent with previous the study by Carr and Sequeira (2007) that highlighted the influence of entrepreneurs' early business exposure on the firm performance. The finding suggests that early business exposure is an important factor to firm performance. This factor has been noted to be contributing to the success of the Igbos' businessmen in Nigeria as well as to the Chinese success in handling business and companies in both Malaysia and China. The result implies, that firms should often consider early family business exposure in hiring an employee. By so doing, firms can be sure of a better performance because employees with early business exposure are likely to contribute more significantly than the employee without early business exposure.

CONCLUSION

In conclusion, the study has provided additional insight into the effect of specific entrepreneurial factors on the firm performance. The empirical evidence obtained from this study demonstrate that entrepreneurs' biological makeup as well as early business exposure affects firm as posited by the psychological theory of entrepreneurship (McClelland, 1967). Based on the findings, the study concludes that entrepreneurs biological makeup as well as early business exposure are significant variables in achieving better firm performance. Secondly, that dimensional factors such as family background; childhood experience, friend influence and relative influence may not be effective in achieving firm performance. Thus, more priority should be given to the biological makeup and early business exposure when considering firm performance. Finally, it is hoped that the findings of this study would be beneficial to researchers, entrepreneur, business-owners as well as policy makers in government.

LIMITATIONS

The findings of this study should be interpreted in the light of two major limitations. First, the study only focused on two key sectors which are manufacturing and service sectors. Therefore, it is the believe of the researcher that this will limit the findings of this study. As a result, the study suggests that further studies in this domain should consider other sectors such as trading and distribution sectors as they also play significant roles in the economy.

Second, the study only adopted a questionnaire survey approach to elucidate date from the respondents. Many researchers or school of thought believed that the questionnaire survey approach is not scientific enough to provide better empirical result in any research as such may also influence the findings obtained in this study.

RECOMMENDATIONS

Therefore, subsequent studies should adopt a more in-depth approach in order to provide the entrepreneurs' opportunity to air their views on how mental capacity contribute to their firm performance. Finally, researchers should endeavour to look into treating some of these dimensional variables (Family background; childhood experience, friend influence, relative influence and early business exposure) as an independent variable as doing so may also provide a useful insight.

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