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## Article

### Firm size, age, and entrepreneurial performance

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Original Research Article

## **Firm Size, Age, and Entrepreneurial Performance**

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### **Abstract**

*Alluding from the learning theory, we investigate the effect of firm age and size on entrepreneurial performance. Specifically we adopted a descriptive methodology, with models drawn from the aforementioned theory. The hypotheses formulated were verified using the ordinary least square regression method, based on primary data from a purposive sampling of hundred (100) small and medium enterprises. The study found a positive and significant relationship between firm age, size and entrepreneurial performance. Given these findings, we conclude that entrepreneurial firm age and size has a positive and significant impact on firm performance. Therefore, the study recommends that; young/emerging entrepreneurs should consider networking with existing entrepreneurs, given their acquired expertise, and highly developed networks with partners, suppliers and customers; which we predict will spur entrepreneurial performance in the long-run.*

**Key words:** Firm Age, Firm Size, Entrepreneurial Performance, Young Firms, Old Firms, Learning Theory.

### **JEL Classification Codes: D210, L250, L260**

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### **1. INTRODUCTION**

The modern business environment is confronted with a lot of complexities and uncertainties. It will therefore not be a misconception to assert that emerging

businesses may be at a negative receiving end. For instance, enduring in such a competitive environment requires some level of entrepreneurial capabilities,

achieved over a period of time through the organisation's age or size.

The relationship between the firm age, size and performance is explained in the learning theory by Wright (1936) which affirms that entrepreneurs gain more experience as the firm ages, hence performance is improved over time. Evidence from literature such as (Malach & Kristova, 2017; Oghuvwu & Okhuwhere, 2018; Piperopoulos & Dimov, 2015; Subrahmanya, 2018) reflects that the entrepreneurial characteristics appears as a prolific factor that drives entrepreneurial performance. Consequently, this study further upholds that entrepreneurial performance should be evaluated beyond the entrepreneur's attributes. Therefore, structural characteristics, such as the firm size and age should be considered.

Theoretically, older and larger firms are assumed to be at an advantage in the face of complexities and uncertainties than the young and smaller ventures (Harvie, Narjoko, & Oum, 2010). Also, the aging of the firm implies building up resources and capabilities, which in the long-term ensues in firm performance. Furthermore, the longer a firm has survived, the more learning has arguably taken place, and this is reflected in the entrepreneur's earnings (Cucculelli, 2017). Similarly, large firms enjoy economies of scale, better funding, access to loans and vast expertise than the smaller firms. Given the above contentions, the firm size and age might provide a possible explanation to entrepreneurial performance beyond the extensively researched variables of entrepreneurial characteristics. Therefore, the crux of this paper is to examine the effect of firm age and size on entrepreneurial performance.

The thought process of this study is as follows: following the introduction, we review extant literature and develop hypotheses in section two. Section three addresses the study methodology with emphasis on analytical review and model

specification. Section four presents the estimation of results and discussion while section five focus on conclusion and suggestion for further research.

## **2. Literature Review and Hypotheses Development**

### **Entrepreneurial Performance**

Entrepreneurial performance can be characterized as the firm's ability to create acceptable outcomes and actions. According to Islam, Khan, Obaidullah, and Alam (2011), the term performance is elucidated as achieving a level of success through acquired knowledge. The concept of performance can be seen as business survival, which is the ability of the firm to continue to operate without threats of liquidating; hence the business is self-sustaining (Chrisman, Bauerschmidt & Hofer, 1998). For this study, entrepreneurial performance is evaluated from the financial and non-financial performance. Financial performance comprises of financial efficiency measures such as return on investment and return on equity, and profit measures such as return on sales and net profit margin (Oladele & Olagunju, 2013). While, the non-financial measures describe the firm's qualitative measures such as customer satisfaction, sales growth, employee growth and market share (Oghuvwu & Omoye, 2016).

### **Firm Characteristics (Firm Size & Age)**

Entrepreneurial ventures are predominantly viewed as small businesses piloted by sole proprietors or family businesses. Some of the characteristics of small business are seen in their employee size, length of operation, total asset, and capital. These features are very fundamental to the survival or performance of the firms. This study examines entrepreneurial firm characteristics from the firm's size (measured by the number of employee) and firm's age (period of its existence from incorporation).

### **Firm Size and Entrepreneurial Performance**

The relationship between firm size and entrepreneurial performance has enjoyed a vast exposure from extant literature. For example, Rajan and Zingales (1995) looked at the relationship between company size and business performance and found that as firms grow in size, leverage also increases. Large firms enjoy economies of scale, better funding, access to loans and vast expertise than the small firms. In the same vein, Ozgulba (2006) examined the impact of firm size on business performance in Istanbul Stock Exchange. The findings from the study revealed that the larger the firm the better they performed. Similarly, using a regression analysis method, Serrasqueiro and Nunes (2008) ascertained the association between size and business performance in Portugal. The findings from the study revealed a positive and significant impact of firm size on business performance. Correspondingly, Lee (2009) investigated the relationship between firm size and business performance and revealed that firm size affects business performance positively. In a similar study, Stierwald (2009) looked at the factors driving performance in Australia, examining 960 firms in the period of 1995-2005. The finding from the study indicates positive and significant effect of firm size on business performance. Likewise, the study of Saliha and Abdessatar (2011) ascertained the factors affecting business performance in 40 firms, the study also found a positive relationship between firm size and business performance. Similarly, Akba and Karaduman (2012) examined the impact of business size on business performance in the manufacturing sector. The findings revealed a positive effect of firm size on business performance.

However, negative relationship is reported in the investigations of Banchuenvijit (2012) and John, Becker-Blease, Fred, Ahmad, and Hans (2010). Banchuenvijit (2012) focused on two measures of firm size

on profitability. The findings from the study revealed a negative relationship between firm size and business performance. Also, John, Becker-Blease, Fred, Ahmad, & Hans (2010) examined the impact of firm size on business performance in USA manufacturing industry and found a negative effect between the performance and firm size (measured by the number of employees). Ensuing from the above contradictory positions of existing studies, we hypothesized a non-significant relationship between firm size and entrepreneurial performance.

### **Firm age and Entrepreneurial Performance**

The firm age can be defined as the period of existence of the firm. Specifically, relating to its date of incorporation as a legal entity. According to Shumway (2001) a more acceptable definition of firm age is the total number of years since its listing, which is said to define the firm's existence.

The empirical conclusions between firm age and entrepreneurial performance have been argumentative. However, from the learning theory, it is logical to assert that there exists a positive relationship between firm size and entrepreneurial performance. This is because as firm ages they achieve greater experiences and become more productive than new ventures.

In the light of the above assertion, the study of Kristiansen, Furuhoft, and Wahid (2003) affirms that firm age is associated with business performance, because entrepreneurs from older firms are known to have more experience and are very independent. Similarly, Cowling, Liu, and Ledger (2012) investigated the relationship between firm age and performance. The study revealed that firm age is positively significant to firm performance. They established that young businesses in their formative years are more likely to be concerned with survival than growth if they do not fail within the first few years of

starting up, but the older firm focus on performance. This report is consistent with the earlier findings of Harvie, Narjoko, and Oum (2010) and Rosli (2011) which established that firm age is significantly related to the performance of the firms. The studies explain that as firm ages, its network expands which exposes it to more learning. Furthermore, they apply their experiences to make productive decisions which in turn ensue in business performance. Similarly, Hui, Ladzi, Jeatabadi, Kasim, and Radu (2013) posit that there is a positive significant relationship between firm age and performance. They draw from the theory of learning that as firms continue to exist it becomes more productive overtime, with its demographic factors as an advantage. In the same vein, Haliwanger, Jarmin, and Miranda (2013) focused on small business by their varying ages and found that young and small firms are more sensitive to cyclical shocks than large firms. Furthermore, they experience considerably more severe decline in employment, than large firms.

Given the arguments above, nonetheless, theoretical explanation can be deduced to explain a negative relationship between firm age and entrepreneurial performance. This is expounded from the view of adjustment of firms, young business may be at an advantage to adjust to uncertainties than older firms. From an empirical investigation, Xiaohui, Mike, and Igor (2013) established a negative association between firm age and business performance. They found that firm age significantly weakens the impact of learning on firm performance, hence a negative relationship. Corroborating this view is the studies of

Cowling, Liu, and Zhang (2018); Dogan (2013); Nunes, Goncalves, and Serrasqueiro (2013) and Yasuda (2005) which maintained that older firms may also suffer from the challenges of aging, such as the decline in entrepreneur's commitment compared to young firms. Given the above inconsistencies from extant literature, we hypothesize a non-significant relationship between firm age and entrepreneurial performance.

### 3. METHODOLOGY

#### Theoretical Framework and Model Specification

We draw from the learning theory propounded by Wrights (1936) to explain the relationship between firm size, age and entrepreneurial performance. The theory posits that older firms learn from experience than firms in nascent stages, this in turn leads to business performance.

In line with the learning theory, the growth of the firm will be explained by its experience acquired over its length of time (firm age) which will allow for expertise in its work force (Argote, 2013). From the theory we propose that; the aging of the firm implies building up resources and capabilities, which in the long-term ensues in firm performance. Furthermore, the longer a firm has survived, the more learning has arguably taken place, and this is reflected in the entrepreneur's performance (Cucculelli, 2017). Similarly, large firms enjoy economies of scale, better funding, access to loans and vast expertise than the smaller firms. Hence, based on this learning curve theory will develop our framework for the study.

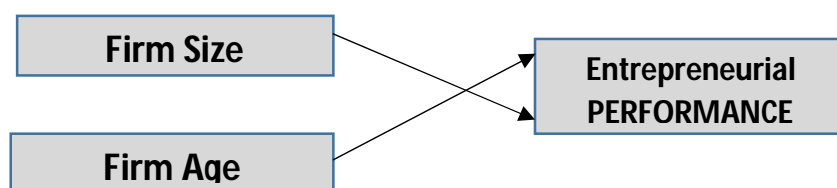


Figure 1: Schema representing the functional relationship between the dependent and independent variables

Following the learning theory, it is expected that as the firm ages it acquires experience which makes it more productive. Also large firms are assumed to be older firms who have acquired vast labour strength, have well developed network, and are exposed to more resources, greater economies of scale and better expertise. Therefore, we presume that a functional relationship exists between firm size, firm age and entrepreneurial performance. It is therefore expressed as;

$$\text{Entrepreneurial Performance} = f(\text{firm size}) \quad (1)$$

$$\text{Entrepreneurial Performance} = f(\text{firm age}) \quad (2)$$

From equation (1) and (2) will have;  
 $\text{Entrepreneurial Performance} = f(\text{firm size, firm age}) \quad (3)$

Equation (3) is expressed in econometric form as;

$$\text{Entrepreneurial Performance} = \beta_0 + \beta_1 \text{firm size} + \beta_2 \text{firm age} + \mu \quad (4)$$

We presumptively expect that as the size of the firm increases and likewise as firms grow older, the performance should also increase.

Therefore,  $\beta_1, \beta_2 > 0$

### Research Design

The study adopted a descriptive survey approach. It assumed all eight hundred and ninety-eight thousand (894,000) small and medium business entrepreneurs in Edo-state (Small and Medium Enterprise Development Agency of Nigeria Survey, 2013) as a population of analysis. Consequently, a purposive sampling of a hundred (100) entrepreneurs from the wholesale, retail and manufacturing sector were considered as a unit of analysis with the aid of a questionnaire.

The justification for this sampling technique is to enhance the accessibility of entrepreneurial ventures that falls within the characteristics under examination, which we assume will form a suitable population to answer the research questions. The questionnaire was designed to represent both the dependent and independent variables in the model. Also, the reliability and validity of the instrument were established using the test-retest / content validation method. Subsequently, data obtained were evaluated with the aid of ordinary least square regression in E-views package.

## 4. ESTIMATION RESULTS AND DISCUSSION OF FINDINGS

**Table 4: Results of the Ordinary Least Square Regression**

Dependent Variable: ENTPER

Method: Least Squares

Date: 06/08/19 Time: 12:20

Sample: 1 100

Included observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.478452	0.101594	4.709469	0.0000
FIRMSIZE	0.350707	0.109233	3.210632	0.0018
FIRMAGE	0.563691	0.129131	4.365271	0.0000
R-squared	0.928790	Mean dependent var	3.732000	
Adjusted R-squared	0.927322	S.D. dependent var	1.086267	
S.E. of regression	0.292845	Akaike info criterion	0.411194	
Sum squared resid	8.318543	Schwarz criterion	0.489349	
Log likelihood	-17.55970	Hannan-Quinn criter.	0.442825	

F-statistic	632.5873	Durbin-Watson stat	0.763845
Prob(F-statistic)	0.000000		

The results of the ordinary least square regression is presented in Table 4. The findings from the estimation depicts that the change in entrepreneurial performance is explained by 93% of the firms' size, and significant at 0.002; deducing that there is a statistically significant positive relationship between firm size and entrepreneurial performance. Hence, our null hypothesis is rejected. This result corroborates the studies of Saliha and Abdessatar (2011) and Serraisquero and Nunnes (2008) that found a significant relationship between firm size and performance. Also, Akba and Karaduna (2012) confirms that large firms are at a better competitive age exhibiting higher networking capability which leads to firm performance, than the smaller firms. Large firms enjoy economies of scale, better funding, access to loans and vast expertise than the small firms.

Furthermore, the analysis also shows that there exist a statistically significant positive relationship between the explanatory variable of firm age and entrepreneurial performance. The result shows that the independent variable, firm age; is accounted for by 93% change in entrepreneurial performance, and significant at 0.000. The result rejects our null hypothesis of no significant relationship. This findings corroborates the works of Cowling, Liu, and Ledger (2012) and Haltiwanger, Jarmin, and Mirandi (2013) that found a positive and significant relationship between firm age and entrepreneurial performance. A recent study by Hui, Ladzi, Jeatabadi, Kasim, and Radu (2013) also posit that there is a relationship between firm age and performance. This affirms the theory of learning, which confirms that as firms continues to exist, it becomes more productive overtime.

## 5. Conclusion and Recommendation

Firm characteristics are vital determinants of entrepreneurial performance. This assertion is because the ability of an entrepreneurial venture to survive in a competitive environment filled with uncertainty will requires some level of entrepreneurial capabilities, achieved over a period a time through the organisation's age or size. Given this submission, the study concludes that entrepreneurial performance is largely dependent on organisational characteristics such as the firm age and size. This is explained by the view that large and older firms exploit competitiveness from economies of scale and expertise from existence. On this premise, the study recommends that; young/emerging entrepreneurs should consider networking with existing entrepreneurs, given their acquired expertise and highly developed networks with partners, suppliers and customers; which we predict will spur entrepreneurial performance in the long-run. The study is limited by its adoption of primary data which may not be very objective. Further research based on secondary data and firm strategic characteristics like business plan and legal status may be explored.

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