# Leadership and Entrepreneurship: Preliminary Validation of Covenant Entrepreneurial Effectiveness Scale

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**Abstract:** Attaining and maintaining leadership in any field of human endeavour requires regular valid measurement and evaluation. The latter is the quest of Psychometrics. The core objective of this study, therefore, was to develop and attempt preliminary validation of the Covenant Entrepreneurial Effectiveness Scale [CEES], a monitoring device for entrepreneurs. The CEES was based on Schumpeter's theory of Innovation in entrepreneurship and Leibenstein's theory of entrepreneurship, combined with current observations of SMEs in a developing economy. The core research questions were: What are the internal consistency reliabilities of the CEES? What are the discriminant validity indices of the CEES? One hundred and ninety-four (194) small scale entrepreneurs were randomly sampled from Ado-Odo Ota local government area in Ogun State, Nigeria. There were 128 males and 66 females with age ranging from 20-65 years. The mean and standard deviation of their age were 38.05 and 8.56 respectively. The responses to the CEES were analysed with Cronbach alpha, Guttman Split-half and Spearman-Brown coefficients and independent student t-test. The results showed that the CEES has significant internal consistency reliability (0.755), split-half reliability (0.742) and discriminant validities for entrepreneurs who were differentiated on Gender (t=2.75, p=0.007), Age (t=2.003, p=0.048), House (t=5.68, p=0.0) Car (5.89, p=0.0) and Annual Profit (t=3.432, p=0.001). It was recommended that the CEES be administered on SMEs in other parts of the globe to further ascertain its reliability and validity for regular monitoring and evaluation, to catalyse entrepreneurial leadership.

**Keywords**: Entrepreneur, Leadership, Effectiveness, Testing, Validity, Monitoring, Evaluation

## 1. Introduction

Nigeria, like many developing economies around the world, is awash with entrepreneurship opportunities. However, the realization of the full potential of these opportunities has been dampened by many factors. Several policy interventions by successive governments aimed at stimulating entrepreneurship development failed to achieve the desired goals. One of the reasons for this failure is ineffective monitoring. Entrepreneurship is the engine room of development worldwide (Qian, 2018). Regular, reliable and valid measurements of entrepreneurial effectiveness is therefore imperative, not only for maintaining leadership position in the field, but for driving unending national development. This is the essence of the paper.

The Federal Government of Nigeria has made reasonable investment in the development of small scale businesses. Additionally, some faith-based and welfare spirited organizations like Living Faith Church, Daystar Christian Church, Redeemed Christian Church of God, Covenant University and Tony Elumelu Foundation have also played significant roles in creating entrepreneurial awareness and building capacity among African youths. Covenant University particularly has been prominent in driving entrepreneurial development and practice.

It is now common knowledge that the development of national economies is contingent on concerted development of small scale enterprises (Chinonye, Akinbode and Obigbemi, 2014). In many developing economies, very little is done in preparing youths for entrepreneurship, hence the rising rate of unemployment and the attendant social vices around the world. Since Governments cannot provide jobs for everyone, it is apparent entrepreneurship is the most plausible and logical panacea. Youths should be equipped with entrepreneurship skills, thus preparing them to become employers of labour and not employees, as it has erstwhile been the practice.

Unemployment has become an issue of international concern. Part of the reasons is the attendant social vices that often accompany victims of unemployment. Out of desperation and frustration, unemployed youths (who are full of energy) engage in vices such as armed robbery, human trafficking, kidnapping, militancy and prostitution. Others are used by Politicians as political thugs.

Organizations putting up vacancy adverts are often inundated with applications from teeming population of job seekers. Recently, a mammoth crowd of youths converged at the gate of a newly established multinational company in Nigeria. The first impression was that the company was conducting an interview. Alas, closer scrutiny revealed that the over 500 applicants were submitting applications for the position of 12 petrol attendants in the company's newly opened petrol station. It is the same pattern in many developing nations around the world.

Nigeria currently has 144 universities. Assuming that Polytechnics and Mono-technics summed up to the same figure, it implies Nigeria has about 300 tertiary institutions. Conservatively, let us further assume that each of tertiary institutions has an average of 1000 graduates annually. That yields extra 300,000 job seekers annually. It is apparent the Government alone could hardly provide the required employment. Entrepreneurship is clearly the way out. In 2006, the Nigeria Federal Government, through the National University Commission, made a concerted effort to solve the escalating unemployment challenge by making entrepreneurship study a compulsory course for all higher education students. Ironically, more than one decade after this promulgation, many Nigerian graduates still remain unemployed long after graduation (Ikebuaku and Dinbabo, 2018).

However, entrepreneurs have their challenges. They need requisite entrepreneurial skills to stabilise their businesses to the point of being capable of employing more hands. Research has shown that almost 80% of new businesses and start-ups tend to fail within the first three years of starting. The reason for the high failure rate is often lack of entrepreneurial skill. To salvage this situation, it is imperative that an empirically validated entrepreneurship effectiveness monitoring scale be developed for public use. This is the core objective of this study. The idea is to place the validated instrument on the internet, such that entrepreneurs, worldwide, can gain easy access to respond to the scale. The automated scale is expected to autoscore, auto-interpret and auto recommend appropriate remedial interventions for identified areas of entrepreneurial skill weakness. The placement of the CEES on the internet is not part of the current study, rather it is an aftermath project.

### Entrepreneurial Theories backing CEES

According to Śledzik (2013), the concepts of entrepreneurship and innovation are probably Schumpeter's most distinctive contributions to economics. One of the most common themes in Schumpeter's writings was the role of innovation and entrepreneurship in economic growth. Schumpeter highlighted the function of entrepreneurs as principally that of carrying out new combinations. He viewed the occurrence of "revolutionary" change as the core of "economic development".

This theory explains how innovation gives rise to entrepreneurial growth which is key in entrepreneurial performance. Schumpeter's position is that anybody seeking to make profits must innovate. He further opined, we are living in a complex and dynamic world in which innovation and entrepreneurship are occupying decisive roles in economic development (Schumpeter, 1934). According to him, innovation in business is the major reason for prosperous business. His proposed process of structural change comprises of 5 steps:

- Launch of a new product or a new process of already known product.
- Application of new method of production or sales of a product (not yet proven in the industry).
- Opening of a new market (the market for which a branch of the industry was not yet represented)
- Acquiring new sources of supplying raw materials or semi-finished goods
- Creation of new industry structure – such as the creation or destruction of a monopoly position.

Another notable theory of entrepreneurship, the X-efficiency theory, was proposed by Harvey Leibenstein of Harvard University. Leibenstein (1968) posited that X-inefficiency is the difference between efficient behavior of businesses assumed or implied by economic theory and their observed behavior in practice caused by a lack of competitive pressure. Leibenstein enumerated the characteristics of successful entrepreneurs as: risk bearing, taking ultimate responsibility, gap-filler, the ability to evaluate economic opportunities, the ability to perceive buying opportunities in different markets, the ability to perceive selling opportunities in different markets, determine and engage in profitable activities, ability to minimize cost so as to achieve maximum efficiency and profitability, Ability to develop new goods or processes in demand but not in supply and

recognizing market trends. These points turned out to be the key indicators of entrepreneurship effectiveness used in the CEES.

The core research question and hypotheses for this study are:

1. What are the internal consistency reliabilities for the CEES?
2. There is no significant difference in the entrepreneurial effectiveness of male and female entrepreneurs.
3. There is no significant difference in the entrepreneurial effectiveness of young and elderly entrepreneurs.
4. There is no significant difference in the entrepreneurial effectiveness of entrepreneurs having personal houses and those without personal houses.
5. There is no significant difference in the entrepreneurial effectiveness of entrepreneurs having personal car(s) and those without personal car.
6. There is no significant difference in the entrepreneurial effectiveness mean of entrepreneurs making high profit and those making little or no profit.

## 2. Method

The survey research design was adopted in this study. A sample of one hundred and ninety-four (194) participants was randomly drawn from the population of small scale entrepreneurs in Ado-odo ota local government of Ogun State. The distribution of the sample by gender and business type are displayed in Tables 1 and 2 below.

**Table 1:** Sample Distribution by Gender

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Male | 129 | 66.5 |
| Female | 65 | 33.5 |
| Total | 194 | 100 |

**Table 2:** Sample Distribution by Business Type

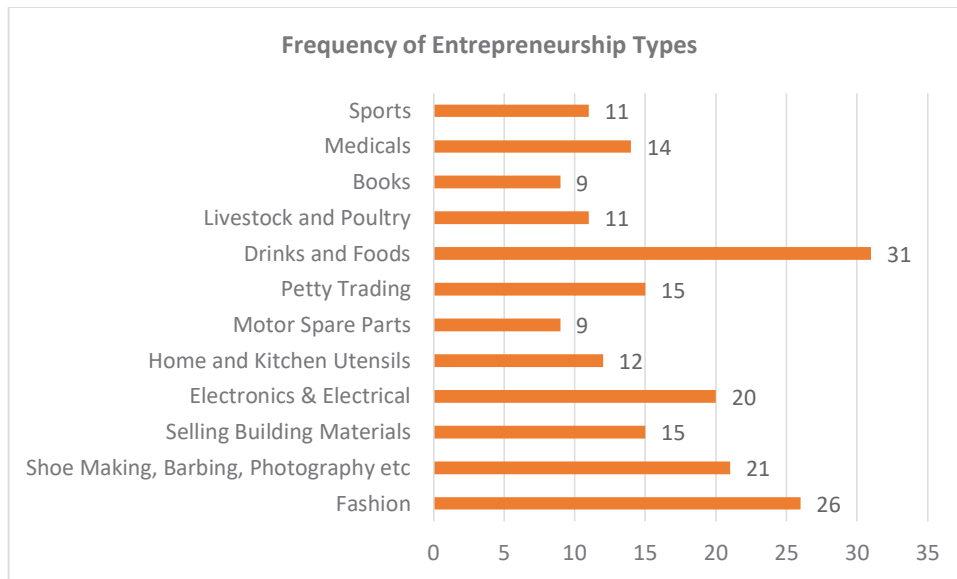| Business Type | Frequency | Percent |
|---------------|-----------|---------|
| Fashion | 26 | 13.4 |
| Shoe Making, Barbing, Photography etc | 21 | 10.8 |
| Selling Building Materials | 15 | 7.7 |
| Electronics & Electrical | 20 | 10.3 |
| Home and Kitchen Utensils | 12 | 6.2 |
| Motor Spare Parts | 9 | 4.6 |
| Petty Trading | 15 | 7.7 |
| Drinks and Foods | 31 | 16 |
| Livestock and Poultry | 11 | 5.7 |
| Books | 9 | 4.6 |
| Medicals | 14 | 7.2 |
| Sports | 11 | 5.7 |
| **Total** | **194** | **100** |

**Figure 1:** Bar Chart showing Frequency Distribution of Respondents by Business Type

From Table 2 and Figure 1, Drinks and food entrepreneurs topped the list of respondents [n = 31, 16%], followed by Fashion entrepreneurs [n = 26, 13.4%] and Shoemaking, barbing and photography entrepreneurs [n = 21, 10.8%].

*Instrument*
The instrument used for data collection, the Covenant Entrepreneurship Effective Scale [CEES], was developed and validated by the researchers. As mentioned above, the items were derived from the key indicators of entrepreneurship effectiveness as depicted by established theories of entrepreneurship (Leibenstein, 1968 and Schumpeter, 1934). Consequently, the CEES has three sections – Section A: Biodata, Section B: Entrepreneurial effectiveness section and Section C: open ended questions. Section B contains 11 sections: Profitability, Administrative & Financial Management, Research and Innovation, Staff training & Motivation, Sales & Marketing, Customer Service, Accessing Cheaper Supply Sources, Expansion Drive/New Business Opportunities, Investment Drive, Improving Infrastructural facilities, and Handling Harassment from Government Officials. Prompts include items like: My company has adequate fund to operate with, my company makes profit every year, and research helps our marketing team to discover new sales strategies. There are 41 items in Section B. The four-point response scale of Strongly Agree, Agree, Disagree and Strongly Disagree was used. The reliability and validity indices of the CEES are provided under results.

*Procedure for Data Collection and Analyses*
After the establishment of the content validity of CEES via concerted reviews by psychometric and entrepreneur experts; cum establishment of face validity by potential end-users, research assistants were trained on administration procedure and sent to the field to collect data. Consent of the respondents was also obtained to use their responses for research purposes. Out of over 200 questionnaires administered, 194 were retrieved. Thereafter the responses were coded and entered into the SPSS for analyses. In line with the research question and hypotheses raised for this study, frequency count, percentage, bar chart and independent student -test were used to analyses the data. The results are presented below.

## 3. Results

**Reliability**

**Table 3:** Internal Consistency Reliability of CEES

| Reliability Types | r |
|---|---|
| Cronbach's Alpha [N of items=40] | 0.755 |
| Spearman-Brown Coefficient | 0.742 |
| Guttman Split-Half Coefficient | 0.735 |

Table 3 shows that the CEES has sufficient internal consistency reliability, which ranged from 0.735 (Guttman Split half) to 0.755 [Cronbach alpha].

**Validity**

**Table 4:** Test of mean difference in Entrepreneurial effectiveness of Male and Female

| Gender | N | Mean | Std. Dev. | t | df | Sig. |
|---|---|---|---|---|---|---|
| Male | 129 | 118.031 | 10.4597 | 2.75 | 192 | 0.007 |
| Female | 65 | 113.354 | 12.4968 | | | |

The CEES offered indices of discriminant validity between male and female entrepreneurs (t=2.75, p=0.007), with male outperforming female respondents in entrepreneurial effectiveness.

**Table 5:** Test of mean difference in Entrepreneurial effectiveness of Young and Elderly Groups

| Age_Group | N | Mean | Std. Dev. | t | df | Sig. |
|---|---|---|---|---|---|---|
| 20 to 35 yrs | 71 | 115.5634 | 11.6346 | -2.003 | 82 | 0.048 |
| 51 to 65 yrs | 13 | 122.2308 | 6.50838 | | | |

The CEES offered indices of discriminant validity between younger and older entrepreneurs (t=2.003, p=0.048), with older respondents [31-65 yrs] outperforming younger respondents [20-35 yrs] in entrepreneurial effectiveness.

**Table 6:** Test of mean difference in Entrepreneurial effectiveness of those with and without personal houses

| House_Ownership | N | Mean | Std. Dev. | t | df | Sig. |
|---|---|---|---|---|---|---|
| Has no personal house | 90 | 112.3778 | 12.2819 | -5.68 | 187 | 0 |
| Has personal house(s) | 99 | 120.8788 | 8.0309 | | | |

In Table 6, the CEES offered indices of discriminant validity between respondents who had personal houses and those who don't (t=5.68, p=0.0). Respondents who own personal houses tend to exhibit significantly more entrepreneurial effectiveness.

**Table 7:** Test of mean difference in Entrepreneurial effectiveness of those with and without personal cars

| Car_Ownership | N | Mean | Std. Dev. | t | df | Sig. |
|---|---|---|---|---|---|---|
| Does not have a car | 93 | 112.2581 | 12.41 | -5.89 | 188 | 0 |
| Have car(s) | 97 | 121.0309 | 7.66 | | | |

In Table 7, The CEES further offered indices of discriminant validity between respondents who had personal cars and those who don't (t=5.89, p=0.0). Respondents who own personal cars tend to exhibit significantly more entrepreneurial effectiveness.]

**Table 8:** Test of mean difference in Entrepreneurial effectiveness of those making profit below and above One Million annually

| Annual_Profit | N | Mean | Std. Dev. | t | df | Sig. |
|---|---|---|---|---|---|---|
| 4 to 1 million naira | 36 | 123.1667 | 4.46894 | 3.432 | 66 | 0.001 |
| Below 1 million naira | 32 | 119.3125 | 4.78868 | | | |

From Table 8, the CEES further offered indices of discriminant validity between respondents who made profit above and below one million naira (t=3.432, p=0.001). Respondents who made profit from one to four million naira tend to exhibit significantly higher entrepreneurial effectiveness than those who made profit below one million. Current exchange rate is $1 = N360.

## 4. Discussion

The following are the summary of findings in this study:

1. CEES has sufficient internal consistency reliability, which ranged from 0.735 (Guttman Split half) to 0.755 [Crombach alpha].

2. CEES offered indices of discriminant validity between male and female entrepreneurs (t=2.75, p=0.007), with male outperforming female respondents in entrepreneurial effectiveness.

3. CEES has acceptable indices of discriminant validity as depicted by indices of significant difference between the entrepreneurship effectiveness of respondents who had personal houses and those who were not having personal houses (t=5.68, p=0.0). Those who had personal houses displayed higher entrepreneurial effectiveness.

4. CEES offered indices of discriminant validity between younger and older entrepreneurs (t=2.003, p=0.048), with older respondents [31-65 yrs] outperforming younger respondents [20-35 yrs] in entrepreneurial effectiveness.

5. CEES further offered indices of discriminant validity between respondents who had personal cars and those who were not having personal cars (t=5.89, p=0.0). Respondents who own personal cars tend to exhibit significantly more entrepreneurial effectiveness.

6. CEES further offered indices of discriminant validity between respondents who made profit above one million naira and those who made profit below one million naira (t=3.432, p=0.001). Respondents who made profit from one million to four million naira tend to exhibit significantly higher entrepreneurial effectiveness than those who made profit below one million.

The finding that CEES has sufficient internal consistency reliability suggests that the CEES has acceptable indices of internal consistency. This is an indication of the homogeneity of the items comprising the instrument. Theoretically, this is expected, since the unitary construct the CEES measures is entrepreneurship effectiveness. This point is supported by Goforth (2015), who opined that the higher the Cronbach alpha ($\alpha$), the more the items have shared covariance and probably measure the same underlying concept.

On the finding that CEES offered indices of discriminant validity between male and female entrepreneurs, with male outperforming female respondents in entrepreneurial effectiveness, it has been found male tend to be more aggressive and persistent than their female counterparts (Ellis, 2014). These traits appear to make the difference between thriving and ailing entrepreneurs. For instance, Lechner *et al*. (2017) observed that gender differences in work values explained a substantial share of the gender gap in entrepreneurial and leadership aspirations. Men tend to have higher support for extrinsic rewards. These finding suggests that work values are implicated in shaping young people's aspirations to business leadership and consequently contribute strongly to the gender gap in the world of entrepreneurship.

The finding that the CEES offered indices of discriminant validity between younger and older entrepreneurs (t=2.003, p=0.048), with older respondents [31-65 yrs] outperforming younger respondents [20-35 yrs] in entrepreneurial effectiveness hardly find support in the literature. For instance, as opposed to the finding in this current study, Petersen (2017) observed that as people got older, they tended to believe they had fewer opportunities for entrepreneurship and fewer skills required to be successful entrepreneurs. These beliefs tend to explain the link between age and entrepreneurship – older people were less confident in their ability to be entrepreneurs. Of-course, there were exceptions. For some people, their entrepreneurial tendencies lie dormant until retirement. Generally, It has been found that elderly people who succeeded as entrepreneurs were wealthier, more educated and confident in their abilities. Lange (2014), in a more comprehensive study, found that there is a relationship between age and different types of entrepreneurship. For example, analysis of MIT alumni who were tech entrepreneurs showed that the median age of first-time entrepreneurs declined from age 40 in the 1950s to 28 in the 1990s.

The finding that CEES furnished indices of discriminant validity by differentiating between entrepreneurs who made profit above one million naira, own personal cars and own personal houses are clearly in the same direction. The primary goal of all business enterprises is to make profit. It is the spill over from such profits that are often used to buy cars and build personal houses. The discriminant validity of CEES, therefore, is based on the expectation that entrepreneurs who score high in the CEES are applying the effective principles of entrepreneurship and consequently should be making good profit that spills over to allow them acquire personal cars and houses. The results obtained along this line of hypotheses confirmed this expectation, and this was corroborated by Seth (2018). In her article tagged, 'Entrepreneurs make money', she reiterated the neoclassical economic theory which states that lack of suitable rewards discourages entrepreneurs to take on risk and put in extra effort. Revision World (2018) concisely puts it this way: "Why is profit important to an entrepreneur? It provides a *measure of success* for the business, as well as acting as an *indicator* to others.

Prospective lenders use the profit figure to decide whether to lend, and potential entrepreneurs look at present profit levels when deciding on entering the industry".

## 5. Conclusion & Recommendation

This study investigated the reliability and validity of the Covenant Entrepreneurship Effectiveness Scale [CEES] with the aim of offering entrepreneurs a valid monitoring tool what could reliably show them the areas to firm up. It is expected this monitoring tool will not only facilitate prompt correction of poor practices, but is expected to catalyze productivity and ultimately national development. Findings from this study tend to affirm the reliability and validity of the CEES. Though further study is recommended to affirm the findings of this study, it is apparent from the content and construct validity results that the CEES can safely be used by entrepreneurs for the monitoring purpose. Entrepreneurs are advised to search for training outlets under proven entrepreneurial mentors to overcome areas of weaknesses revealed by CEES.

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***Abridged Abstract***
*Attaining and maintaining leadership in any field of human endeavour requires regular valid measurement and evaluation. The core objective of this study, therefore, was to develop and attempt preliminary validation of the Covenant Entrepreneurial Effectiveness Scale [CEES], a monitoring device for entrepreneurs. The CEES was based on Schumpeter's and Leibenstein's theory of entrepreneurship. One hundred and ninety-four (194) small scale entrepreneurs were randomly sampled from Ado-Odo Ota local government area in Ogun State, Nigeria. The responses to the CEES were analysed with Cronbach alpha, Guttman Split-half and Spearman-Brown coefficients and independent student t-test. The results showed that the CEES has significant internal consistency reliability (0.755), split-half reliability (0.742) and discriminant validities for entrepreneurs who were differentiated on Annual Profit (t=3.432, p=0.001). It was recommended that the CEES be administered on SMEs in other parts of the globe to further ascertain its reliability and validity for regular monitoring and evaluation, to catalyse entrepreneurial leadership.*