

# Northumbria Research Link

Citation: Igwe, Paul Agu, Madichie, Nnamdi O. and Newbery, Robert (2019) Determinants of livelihood choices and artisanal entrepreneurship in Nigeria. *International Journal of Entrepreneurial Behaviour & Research*, 25 (4). pp. 674-697. ISSN 1355-2554

Published by: Emerald

URL: <https://doi.org/10.1108/IJEBR-02-2018-0102> <<https://doi.org/10.1108/IJEBR-02-2018-0102>>

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/id/eprint/43087/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

This document may differ from the final, published version of the research and has been made available online in accordance with publisher policies. To read and/or cite from the published version of the research, please visit the publisher's website (a subscription may be required.)



## Determinants of Livelihood Choices and Artisanal Entrepreneurship in Nigeria

|                  |   |
|------------------|---|
| Journal:         | <i>International Journal of Entrepreneurial Behavior &amp; Research</i> |
| Manuscript ID    | IJEBr-02-2018-0102.R2   |
| Manuscript Type: | Research Paper  |
| Keywords:        | Entrepreneurship, Family Firms, Small firms, Decision making            |
|                  |   |

SCHOLARONE™  
Manuscripts

## Determinants of Livelihood Choices and Artisanal Entrepreneurship in Nigeria

### Abstract

**Purpose** – This study provides fresh insights into rural artisanal activities in a developing world context. It highlights key determinants of the decision to engage in an artisanal business and the challenges that impact upon the growth of these activities.

**Design/methodology/approach** – The study adopts a mix-method research approach to explore a rural setting where most respondents (81 percent) combine farm and non-farm livelihood activities. Quantitatively, a multi-nominal regression is used to examine the determinants of diversified artisanal livelihoods. It modelled the differences between farming livelihoods that have not diversified, compared to those also involved in the artisanal activity or wage employment and the intensity of participation.

**Findings** – The findings show that nearly half of artisanal businesses (45.4 percent) comprise only the owners and no employee, while 54.6 percent employ 1-3 workers. Also, some artisanal ventures were more gender-specific than the gender-neutral activities. Other observations were in age (most artisans were under the age of 46 years) and vocational training (most were self-trained followed by a third receiving training only in specific areas such as technical works, building and construction and general trading apprenticeships).

**Research limitations** – The study is based on a relatively small sample size of 306 business owners, which makes it difficult to generalise despite the persuasiveness of the observations made.

**Practical implications** – First, the use of econometric methods enabled development of valid data sets (and various descriptive statistical and logit regression) to analyse determinants of the decision to engage in artisanal work, and the intensity of participation. Second, the ambiguity in categorising artisanal activities is unravelled. The study characterises the local artisanal sector and examines the intensity of participation. Without these, targeted support would remain elusive for practical and policy interventions.

**Originality/value** – Artisanal activities constitute a high proportion of small businesses in the study area – with more than half (54.2%) of respondents being classified as artisans, yet it is an overlooked area of entrepreneurship. Highlighted here are both types of activities and challenges regarding better conceptualising our understanding of artisans and regarding this mostly unarticulated base of practice.

**Keywords** – Artisan Entrepreneurship, Family firms, Small business, Decision making

**Article Type:** Research paper

## Introduction

Artisanal and other non-farm activities constitute a major component of livelihood choices in developing world contexts. Artisanal enterprises have traditionally been mainly associated with place and locality (Brown, 2015); and sometimes identified in terms of cultural forms of business ventures (Lounsbury and Glynn, 2001). Due to the diversity of the artisanal sector, there is no consensual definition of artisans. In one strand of literature, artisans are distinguished by the type of trade they practice, while in another, they are defined based on having distinct goals or value sets (Tregear, 2005). However, irrespective of the definition adopted, artisans are the most prevalent form of small businesses in developing economies, especially in the rural communities. Rural enterprises are becoming more prominent and integrated components of a community's economic activities (Apostolopoulos *et al.*, 2018; Koyana and Mason, 2017; Lyee and Cowling, 2015; Muhammad *et al.*, 2017). This type of economic activity is widely acknowledged as an engine for rural economic development (Igwe *et al.*, 2018a; Newbery *et al.*, 2016; Newbery *et al.*, 2013; Seedhouse *et al.*, 2016).

There is another interesting commentary on artisanal businesses, which states that “most people still do not understand the full economic value of the sector and they do not think of artisan businesses as real industries – or as drivers of economic development and job creation” (Foote, 2015: 1). The literature classifies artisans as trade practitioners or as lifestyle-seekers (see, for example, Tregear, 2005: 2). This study argues that, in the developing world context, it is the former (i.e. artisans as trade practitioners) that makes the most sense. In the developing world context for instance, rural populations take various forms of activities, including, farm-based income via the production of crops and livestock; non-farm income via micro-industry and trading enterprises (Muhammad *et al.*, 2017); and waged labour, either in rural industries or via labour migration by family members to work in urban industry (UN, 2008; World Bank 2008). Artisans have, however, started being recognised in both the academic and policy circles alike. The word ‘Artisan’ is often viewed as culturally embedded (vernacular) material production (Sennett, 2008) involving close engagement of the maker with the physical world, working with its sensory, material, spatial and environmental qualities to create objects highly related to ‘place’ (Brown, 2015).

Throughout history, artisans have produced utilitarian goods in response to a social demand within their community. Artisan enterprise culture has had to adapt to modern products under the influence of outside agents (Markwick, 2001). Nowadays, handicrafts that were majorly traded within the community as utilitarian items or everyday objects in the past have now gradually become commercialised outside these local markets (Swanson and Timothy, 2012). The rise in mass tourism is another factor that contributes to the global outreach of traditional handicrafts, thus creating a market for the external audience (Chutia and Sarma, 2016). To understand the situation of rural artisans in the developing world context, it is necessary to examine the full diversity of the experiences of the social actors in the context of the changing rural economy (Lyee and Cowling, 2015). These usually include gaining better insight into access and control over resources, and determinants of their decision-making based on the ‘Sustainable Livelihood Approach theory’ (SLA) (Carney 1998; DFID, 2000; Hockerts *et al.*, 2018; Krantz, 2001; Morse and McNamara, 2013). SLA focuses on the design of interventions relevant in situations where people may have multiple contributions towards their livelihood rather than just a single wage or salary (Morse and McNamara, 2013). According to Chambers and Conway (1992: 7):

*“A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living; a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and*

1  
2  
3 *assets, and provide sustainable livelihood opportunities for the next generation; and*  
4 *which contributes net benefits to other livelihoods at the local and global levels and in*  
5 *the short and long-term”.*  
6

7 In many rural areas, as subsistence agriculture is giving way to commercialised  
8 agriculture, artisanal activities play an important role and links rural communities  
9 (producers and consumers) to the urban economy (see, for example, Barrett *et al.*, 2001;  
10 Grimes and Milgram, 2000; Stephen and Lenihan, 2010). The changes in rural  
11 economies of many developing countries have been accompanied by related changes in  
12 the organisation of production and marketing. These include the intensification of large-  
13 scale handmade goods, the use of modern machines, outsourcing of manufacturing,  
14 thereby creating vibrant artisanal industries. As a result, successful industrial clusters are  
15 developing in many regions. For example, these clusters can be seen in many locations in  
16 Eastern Nigeria (see, for example, Brautigam, 1997; Madichie *et al.*, 2008; Madichie and  
17 Nkamnebe, 2010; Meagher, 2010). These cities and urban locations have become  
18 important tourist destinations because of artisan entrepreneurship.  
19

20 The focus of this study is to provide insight into rural artisanal activities,  
21 determinants of the decision to engage in an artisanal business and the challenges that  
22 impact upon its growth in the developing world context. The study characterises the  
23 local handicraft sector to identify essential elements for micro-enterprises. Artisanal is  
24 an industry that has not been widely researched in Africa context. Like most previous  
25 family firms' studies, we consider artisans as micro-businesses, mostly family owned,  
26 informal and operated by family labour or few employees. The attributes of informality  
27 and family-orientation include having fewer than five employees, being unregistered,  
28 usually unlicensed, and typically do not pay taxes (Igwe *et al.*, 2018c; Igwe *et al.*,  
29 2018d; Khavul *et al.*, 2009). The changes associated with the liberalisation of markets,  
30 tourism, the increase labour mobility and diversification of rural livelihoods have  
31 brought both gains and challenges to artisans. However, to understand the benefits and  
32 challenges identified above, this paper adopts a different approach from previous  
33 artisanal entrepreneurship research to make contributions to knowledge.  
34

35 The first main contribution related econometric methods employed that enabled  
36 development or assembling of valid data set and then uses various descriptive statistical and  
37 logit regression to analyse determinants of the decision to engage in artisanal employment  
38 and the intensity of participation. As far as we know, this issue has not been directly  
39 examined in artisan entrepreneurship research by applying logit model as previous studies  
40 focused on investigating the goals and values of craft practitioners (Bouette and Magee,  
41 2015); examining the goals of contemporary artisans (Tregear, 2005); describing the current  
42 situation of the handicraft market (Forero-Montaña *et al.*, 2017); and as a means to promote  
43 long-term development of the rural economy (Dana, 1999; Lyee and Cowling, 2015). To  
44 determine the factors influencing the decision to engage in artisanal activities we employed  
45 socio-economic (independent) variables such as age, sex, education (see, for example,  
46 Kabongo and Okpara, 2010), technical education, household size, farm size, access to credit,  
47 access infrastructure, etc. A second contribution relates to the ambiguity in categorising  
48 artisanal activities, as there is no consensual definition of artisans (Tregear, 2005). In this  
49 study, we characterise the local artisanal sector and examine the intensity of participation. In  
50 so doing, we contribute to a better understanding of the concept of artisan entrepreneurship.  
51

52 Following this opening section, the next part of this study explores the literature on  
53 artisan entrepreneurship, SLA theory and environmental factors that impact on rural  
54 micro/small enterprises. This is followed by the methods underlying the research approach  
55 (see, for example, McDonald *et al.*, 2015). Based on a mixed method, the study goes on to  
56  
57  
58  
59  
60

1  
2  
3 present a profile of rural artisans, examine the determinants and intensity of participation in  
4 artisanal activities. The study concludes with a discussion and implications for future  
5 research.

### 6 7 **Literature Review**

8 Defining 'artisanal entrepreneurship' has always been problematic (see, for example,  
9 Blundel, 2002; Steel, 1979; Tregear, 2005). Yet, the fact that no definitional consensus has  
10 been achieved is itself revealing. As Tregear (2005: 1) opined, "in studies of small firms and  
11 their contribution to regional development, the artisan or craftsperson is an ambiguous entity  
12 [...]. In one strand of literature, artisans are characterized as individuals practicing certain  
13 types of trade in which manual techniques take precedence, for example, textiles and  
14 metalware..." In his investigation of the urban artisanal sector, Steel (1979) pointed out many  
15 decades ago that "artisanal manufacturing and service enterprises in developing world  
16 contexts such as Yaoundé [Cameroon] and Accra [Ghana] revealed that there are inherent  
17 operational problems of defining, measuring, and assisting 'artisanal' or 'small scale'  
18 activities" for which these ventures are renowned. In that study also, some of the artisanal  
19 sectors mentioned included clothing, furniture and wood, food preparation, vehicle repair,  
20 metalwork, barber shops and hairdressers, shoes, electrical appliances repairers, milling  
21 (Steel, 1979: 275). Similarly, Blundel (2002: 3) outlines artisanal products as including food,  
22 ceramics, furniture and textiles. He goes on to highlight that 'comparatively little attention  
23 has been paid to craft-based enterprises' when considered alongside the 'high-tech' firms  
24 even though both kinds of businesses can be explored using very "similar analytical  
25 approaches." In another study, Forero-Montaña *et al.*, (2017: 9) examined local artisans and  
26 sawyers in Puerto Rico as home-based family microenterprises engaged in the harvesting,  
27 processing, and trading a wide variety of local forest products. Also, Brew *et al.*, (2017: 3)  
28 explored the changing context of an academic work introducing the idea of academic artisans.

29  
30  
31 Two key points are evident from the above. First, there is some ambiguity in the  
32 conceptualisation of the concept. Second artisanal ventures usually favour the use of manual  
33 techniques especially in activities such as textiles, metalwork and weavers (Cohen, 1998). To  
34 add to the latter list, there are other activities such as repair work (auto, watch etc.),  
35 woodwork (carpentry), and hairdressing (including barbing salons). Despite the difficulty in  
36 the conceptualisation, artisanal in the form of small businesses play essential roles in  
37 developing countries. It has been argued that artisanal and subsistence activities in rural  
38 developing economies are key to economic development and employment, leading to a more  
39 equitable distribution of income (IFAD, 2012).

40  
41 In this study, we draw on insights from SLA literature on occupation-based activities  
42 such as agriculture, wage employment, and non-farm businesses (including family businesses  
43 and artisanal operations in the non-farm sector). We assume that households choose one or a  
44 combination of these options for self-employment, income sources and as a livelihood  
45 strategy. In sub-Saharan African countries, livelihood choices take in the form of diversified  
46 subsistence agriculture (Lanjouw and Lanjouw, 2001) and informal micro/small non-farm  
47 employment. Three rural livelihood factors are mentioned as determining the nature and  
48 extent of diversification – seasonality, risk and vulnerability (Igwe *et al.*, 2018c). To plan for  
49 these circumstances, the household becomes less dependent on agriculture (IFAD, 2009) but  
50 diversify into non-farm and artisanal activities. These non-farm activities provide survival  
51 strategies for risk reduction (Estrada-Robles, 2016; Fabusoro *et al.*, 2010; Revilla *et al.*,  
52 2016), risk-taking (Carsrud and Cucculelli, 2014; Wang and Poutziouris, 2010) and  
53 innovation (Duran *et al.*, 2016; Matzler *et al.*, 2015). Nevertheless, there are many challenges  
54 facing rural businesses, such as access to finance (Michiels and Molly, 2017; Ramalho *et al.*,  
55 2018), infrastructure (Krishna and Shariff, 2011; World Bank, 2011), education (Aikaeli,  
56  
57  
58  
59  
60



2010), political environment (Igwe, 2016; Ochulor, 2011) and culture (Aidis *et al.*, 2012). Therefore, an important research focus is to examine the challenges to rural artisanal activities of which many in the developing world depend on for employment and livelihood.

In her findings, Tregear, (2005: 1) observed, "... *strong evidence of both lifestyle goals and commercial ambitions and skills among artisans.*" The study goes on to suggest that "when operating in buoyant niche markets, artisan producers offer the potential for the valorisation of local resources, skilled employment, and development of localised supply chains. However, under adverse market conditions, it is hypothesised that artisans may follow one of two pathways, both of which lead to a loss of socio-economic benefits..." This study focuses on the latter, i.e. entrepreneurship under adverse market conditions epitomised by the Nigerian economy to examine the growth of artisanal enterprises. In the rural areas of developing countries, artisans integrate craft production and trade with subsistence activities, such as farming, herding, hunting and fishing (Grimes and Milgram, 2000). Recently, there has been an increased interest in local and handmade goods that are linked to culture and tourism (Ratten and Ferreira, 2017).

Tregear (2005: 1) examined the goals of contemporary artisans from 'two strands of literature' offering different conceptualisations of artisans, "the first inferring proclivity towards co-operation and community involvement, the second assuming prioritisation of lifestyle goals over growth". According to Tregear (2005: 1), "each conceptualisation presents alternative implications for regional development. To assess the contrasting theories of the character and socio-economic role of artisans, a qualitative study was undertaken, involving in-depth interviews with 20 artisan food producers in the north of England, exploring their goals and activities." Tregear's study provides further evidence that the list of artisanal activities is a growing one, which includes food production cutting across geographical boundaries. England, for example, is not an agrarian society, but artisanal activities (e.g. cheese making, meat processing, etc.) are evident in that sector of the economy.

One topic of research in entrepreneurship that has drawn a substantial amount of attention in recent years is identifying different motivations for starting a business (Fairlie and Fossen, 2017; Madichie and Hinson, 2015). Two major distinctions that have repeatedly been discussed and contrasted with each other in the literature are "opportunity" entrepreneurs (OEs) and 'necessity' entrepreneurs (NEs) (see, for example, Calderon *et al.*, 2017; Taylor, 1996; van der Zwan *et al.*, 2016). The earlier refers to those who start a business because they spot an opportunity in the market which they want to pursue and the latter refers to those who start a business as they do not have another means of generating income. It could be argued that most of the artisanal activities in developing countries have been because of "necessity" (push-factor) rather than "opportunity" (pull-factor) (see for example, Block and Wagner, 2010; Davidsson, 2015; GEM, 2016-2017; Herrington and Kelly, 2012; Kautonen and Palmroos, 2010). It is believed that 'OEs' tend to create high-growth businesses than 'NEs'. However, the current economic climate in many low/ middle-income countries is creating a growing number of NEs (Amin, 2009). While 'NEs' in developing countries range from street sellers to educated hopefuls with little access to formal employment, the one thing that unites them is the need to survive (Brewer and Gibson, 2014).

'Social identity theory' scholars point out that social categories precede individuals – i.e. individuals are born into an already structured society (see, for example, Stets and Burke, 2000). Given that artisanal and other non-farm activities form a significant component of livelihood in developing countries, there is a need for research to understand the nature and how these activities can be improved to promote economic development. Hence, the recent academic and policy focus on artisan entrepreneurship is an exciting development.

1  
2  
3 Furthermore, given that most micro/small entrepreneurs in Africa, fall into the necessity  
4 entrepreneurship makes this research a valuable contribution. This leads us to the following  
5 research questions: What are the characteristics of rural artisans? Are there gender difference  
6 regarding ownership, types of activities and obstacles to entrepreneurial intentions? What are  
7 the socio-cultural, economic and political challenges that face rural entrepreneurs? What are  
8 the relationships between some socio-economic variables (such as gender, education, age,  
9 technical education, access to credit, farm size, infrastructure, etc.) to artisan career choices?  
10

### 11 **Design, Methodology and Approach**

12  
13 This study focused on obtaining in-depth understanding of the concept of artisanal  
14 entrepreneurship and their practices (see, for example, Higgins *et al.*, 2015; Igwe *et al.*,  
15 2018b; Kraus and Njemand, 2016). It adopts a mixed method with the initial data collected  
16 from a questionnaire survey and later validated through Focus group. Methodological  
17 validation is based on the rationale that a single method is insufficient to provide adequate  
18 and accurate research results (Holtzhausen, 2001). The questionnaires were developed in a  
19 two-step revision stage. First, a structured questionnaire was designed to collect quantitative  
20 and qualitative data. Second, validity test was carried out in which the questionnaire was  
21 applied to ten business owners to obtain feedback about the clarity of the questions, the use of  
22 appropriate terminology, and the possible omission of important rural and income activities  
23 (see, for example, Nwankwo *et al.*, 2010). The questionnaire was administered to owners of  
24 non-farm businesses (who were also engaged in farming and or wage employment). Farming  
25 includes crop and livestock activities (i.e. on-farm labour), non-farm captured all income  
26 activities related to 'off-farm' self-employment, while wage employment implied that  
27 respondents were engaged in salaried work in addition to farming.  
28

29 A random sampling technique was adopted in investigating the local business  
30 community of interest in this study. The survey started with locating and identifying local  
31 cooperatives, trade associations in the selected 20 local communities in five States that  
32 constitute Eastern Nigeria – i.e. Abia, Anambra, Ebonyi, Enugu and Imo (four communities  
33 from each state). The executive committee members of the cooperatives and trade  
34 associations were contacted with a request to administer the questionnaire to their members.  
35 Every State has a local government area, the community has villages, and each was  
36 considered as a cluster. Within each cluster, random sampling technique was further  
37 employed to select cooperatives and trade unions and business owners. Fifty association was  
38 handed 20 questionnaires to randomly distribute to their members, making a total of 1000  
39 Questionnaires. The reason for adopting this approach is to eliminate the barriers associated  
40 with collecting data in Nigeria due to lack of postal facilities, email and business contact  
41 addresses. This method also ensures a high rate of response rate due to a high degree of trust  
42 and accessibility of respondents. Of the 1000 questionnaires originally sent out, 306  
43 completed questionnaires were returned (giving a response rate of 30.6%).  
44

45 The sample size was deemed appropriate for the statistical analysis techniques (see,  
46 for example, Cooper and Schindler 2006; Robson 2002), and the follow-on focus group  
47 served as a sounding board (Nwankwo *et al.*, 2005) to validate the findings. Indeed, with the  
48 mixed-methods adopted in this study, the methodology improves upon similar studies. For  
49 example, in their investigation of the “cultural determinants of entrepreneurial emergence” of  
50 the Igbo ethnic group, Madichie *et al.*, (2008) relied on a survey of 30 owner-managers and  
51 236 top-management staff of select Nnewi indigenously owned firms. Furthermore, while  
52 García and Welter (2011) employed a sample of 19 business owners in Spain to study gender  
53 identities and practices, Tregear (2005) applied in-depth interviews with 20 artisan food  
54 producers in the north of England to explore their goals and activities. The survey was  
55 followed up with a focus group to validate the received responses and clarify some pertinent  
56  
57  
58  
59  
60



trends captured from the survey (see, for example, Morgan, 1993). The study uses a multinomial regression to explore the determinants of diversified artisanal livelihoods. Differences between farming livelihoods that have not diversified were modelled against those that are also involved in an artisanal activity or wage employment. Following this, the study assessed variables relating to the intensity of participation.

### Research Context and Framework

The theoretical framework for determining the effects of the factors influencing participation in non-farm and artisanal activities has its roots in the logic behind the SLA theory (Carney 1998; DFID, 2000; Krantz, 2001; Morse and McNamara, 2013; Hockerts *et al.*, 2018), which started out amongst development practitioners and researchers since the late 1990s and was a central concept of the Department for International Development's (DFID) strategy. The eastern states of Nigeria are famous for their artisanal activities (Bräutigam, 1997; Meagher, 2010). Eastern Nigeria is home to the Igbos, a region and population that hosts three of the most extensive concentration of business activities in Nigeria – notably Aba, Nnewi, and Onitsha. The commercial hub of Aba has by 'dint of hard work' by thousands of artisans, carved a niche in finished leather products such as shoes, bags, and belts etc. (Ugwu, 2016). While Aba is also host to the famous *Ariaria International Market*, which has become the largest market in West Africa (Munro, 1995), Onitsha Main Market is a hub of commerce in the region including home to the Iwaka Road home of movie-making (Madichie and Nkamnebe, 2010). These commercial hubs influence the rural communities in terms of rural-urban labour migration and supplies of local handicrafts and agricultural food supplies. Furthermore, Aba, Enugu, Onitsha and Nnewi have become famous tourist destinations in eastern Nigeria because of artisan entrepreneurship.

### *Descriptive Statistics*

The dataset presents descriptive statistics revealing the types of business activities, socio-demographic characteristics of the sampled respondents. All the business owners captured in this survey were engaged in farming (in addition to participating in any of either non-farm, off-farm labour or artisanal activities). This is not unusual, given that about 80% of Nigerians live in rural areas and agriculture is the primary occupation (Nwankpa, 2017). All the activities were family-oriented, given that all the owners described their business as a family business and reported to having family members working either part-time, full-time or voluntary. The composition of rural livelihood activities (shown in Table 1) revealed that the share of the formal activity is 18% (farming, 5.3%, non-farm & artisanal, 12.7%) and informal activity is 82% (farming, 13.7%, non-farm and artisanal 68.3%), indicating that informal activities provide the bulk of farming, non-farm and artisanal employment in the study area. African Development Bank estimate that between 80-90% of total employment is informal in Africa and the informal sector contributes 80% of the labour force (AfDB, 2013).

The ownership structure showed that men dominate in farming activities with 15.1% (women 3.8%), while women dominate in non-farm and artisanal businesses with 51% (men, 30%). These results followed similar results recorded by the National Bureau of Statistics Sample Survey (NBS, 2012) which revealed male dominance in agricultural activity at peasant level in Nigeria by 85% (women, 15%). Another explanation for the farming statistics is that culture and tradition favour men over ownership of assets such as land in rural communities, given that men assume the rights and positions of head of households and participate in paid employment more than women (Igwe *et al.*, 2018a). Hence, more women than men take up non-farm and artisanal activities in addition to on-farm labour as revealed by the survey statistics. The intensity of participation in artisanal activities in the study area is high. Given the categorisation of artisans from the review of the literature, more than half

(54.2%) of the respondents were classified as artisans (marked as \* in Table 1). The results showed that rural artisans engaged in diversified portfolios as part of livelihood strategy. For example, 13% of respondents are involved in the manufacturing of handicrafts and 14.6% engaged in trading. Arguably, most of these people are "necessity entrepreneurs". Conventionally, less economically developed or those nations with weak institutional frameworks have a higher proportion of necessity entrepreneur (Amin, 2009).

**[INSERT TABLE 1 HERE]**

Data revealed that about 45.4% of non-farm and artisanal businesses comprise only the owner and no paid employee. The average number of employees in the family businesses were 1.6 persons. About 42.3% employed between 1-3 employees, with two-thirds of this proportion of businesses (29.6%) having employees related to the business owners as employees or apprentices. Only 12.3% had more than four employees as full-time or part-time. The artisanal activities engaged by men and women revealed in the survey shows many activities (e.g. mechanics, electricians, plumbers, shoemakers, handbag makers, weavers, traders, restaurant and/ or beer parlour (pubs), craft making, fish pond, food processing, newspaper vendors, tailoring, traditional medicine, photography, phone call centre, butchers, miners, etc.). As reported in one Nigerian Daily (Vanguard, 24 January 2018), at the beginning of telecoms revolution in Nigeria, most jobless Nigerians saw opportunities in selling recharge cards and running roadside call centres (also known as phone call centres).

When the data were disaggregated by gender, it revealed that some artisanal ventures were more gender-specific (e.g. carpentry, general repairs such as maintenance services, electrical maintenance, plumbing, auto mechanics, etc.) than the gender-neutral activities (e.g. traders, restaurants and bars, tailoring, photography and poultry farming). It was also observed that there were only a few activities that seemed common to both men and women, but with men activities being more extensive. The survey also captured socio-demographic characteristics which include; age, gender, marital status, educational qualification and family size. The results show that age of majority of the respondents (82.7%) are between the 20 – 45 years age group, with a mean age of 52.6 years (Table 2). This finding is in line with surveys by Small and Medium Enterprise Development Agency of Nigeria, (SMEDAN, 2013) that revealed age bracket of ownership structure showed that age bracket of 24-50 dominates in micro/small artisanal enterprises. Data on educational qualifications revealed that about 19.6% of the respondents attained between 0-5 years schooling (that is, did not have formal education or did not complete primary school), 49% spent 6-10 years (that is, completed primary education but an uncompleted secondary education). The findings further revealed that 19% spent 11-14 years, while 12.4% spent 15-18 years. The mean of years spent in school was 6.9 years (Table 2). The low level of higher education among the respondent corresponds with GEM studies which showed that Nigeria is noted for its low levels of tertiary education (GEM, 2014). One significant finding was that of 12.3% businesses that employed more than four employees, 10% of that came from the owners that have higher qualifications such as diploma, degree and post-graduate.

**[INSERT TABLE 2 HERE]**

The findings revealed that majority (92.2%) of the respondents were married as against others which comprised of those who are single, widowed and separated who accounted for 7.8%. The findings of the family size showed that most respondents (74.5%) had between 6-10 members, 16% who had between 11-15 members, 6.5% had between 1-5 members and 2.9% who responded revealed that they had between 16-20 members in their household (Table 2).

The results revealed the average family size of 10.3, an indication of significant family size. Several authors (see, for example, Fabusoro *et al.*, 2010) have previously noted that a large household in developing countries are likely to have more diversified income sources if it has some or all its members working and contributing income to their households. The survey identified the training received by the respondents to include three major areas as *Technical work* (30%), *Construction work* (8.5%), and *Trading apprenticeship* (6.5%). Others include tailoring, catering, hairdressing and weaving, and manufacturing work, food processing and electrical/mechanical work (Table 3). The results revealed that majority of the respondent was self-training about 38.2%, through learning by doing. Previous studies (e.g. World Bank, 2008), have shown that people who have had some form of vocational training are more likely to work in non-farm activities.

[INSERT TABLE 3 HERE]

### *Barriers and Environmental Challenges*

Several factors and obstacles affect livelihood capabilities and ability to participate or engage in income-generating activities. In the survey for this study, respondents were presented with fifteen business challenges and asked to rank it in order of 1-5 (one being minor and five being dominant). Five factors recorded the highest values as being significant obstacles to artisanal and non-farm businesses. These include, inadequate and lack of electricity (76.1%), poor access to credit (80%), lack of access to information (70%), corruption in the public services (74.5%) and cultural barriers, including gender issues (67%) as shown Table 4. GEM (2015) found that the formal financial sector supplies only 7% of funding in Nigeria, with over 80% of funding currently coming from either the entrepreneur's personal or family savings. This situation is unsatisfactory due to the scarcity of personal savings and sources of income in the rural areas. Another factor is cultural context specific to a group or society with the capacity to make individuals behave in specific ways (Miao, Qian and Ma, 2017; Bagwell, 2018; Werthes, René Mauer and Brettel, 2018).

[INSERT TABLE 4 HERE]

In the views of Kuzilwa, (2005), as well as Shastri and Sinha (2010), all conditions for exploiting entrepreneurial opportunities such as education, experience and energy may exist, but the social, cultural and environmental constraints such as gender or societal discrimination and religious believes especially in developing economies, may hinder the entrepreneur. 'Social identity theory' explains intergroup relations – i.e. how people come to view themselves as members of one group/category (the in-group) in comparison with another (the out-group), and the consequences of this categorisation, such as ethnocentrism (Turner *et al.*, 1987). In the study area, most of the social and cultural barriers revolved around gender, age, household size, education (demographic factors), rights, equality and inclusion of women in economic activities. This led to the development of the first research hypothesis:

*H1. Demographic characteristics affect the entrepreneurial choices made by business owners.*

In addition to the above social and cultural factors, access to credit and access to information are other significant constraints since most of the business owners are uneducated (see, for

example, World Bank Enterprise Surveys, 2014). These obstacles add to the usual challenges that businesses face such as lack of infrastructure, insecurity, bribery, time lost in dealing with bureaucracy, power shortages and the lack of market access (Igwe *et al.*, 2018d). This led to the second research hypothesis:

*H2. Access to credit, information and infrastructural facilities affect the entrepreneurial choices made by business owners.*

### *Multinomial Logit Model: Concept and Application*

The survey captured annual income from employment activities which was used to model the regression. Multinomial logistic regression model was used to identify the factors affecting the occupational choices made by the rural business owners. The multinomial logit models have some advantages in examining livelihood choices. However, there are two main limitations of letting categorical (discrete) variables represent livelihood options according to Rahman and Akter, (2014). First, the zero cut-off is though problematic since a farming household will diversify income sources by choosing agricultural and non-agricultural options, simultaneously. Second, the categorical dependent variable fails to consider the variation within the 0–1 range (choose an option or not). This study, however, modeled the decision of rural business owners using the categorical options of 1, 2 and 3 for the agricultural, artisanal and wage employment choices owing to the available data. While in the second model, we adopt income as the dependent variable and multivariate Tobit model for estimation. A Tobit model has been described by several scholars (Rahman and Akter, 2014) as the most suitable because it uses all observations, both those at the limit, usually zero (for example, non-participants), and those above the threshold (for example, participants), to estimate a regression line as opposed to other techniques that use observations which are only above the limit value.

### *Variables used for Empirical Estimation of the Models*

The empirical application focuses on the identification of socio-economic factors that affect the decision on livelihood and employment choices. The key elements and implicit assumptions underlying the models are based on Abdulai and CroleRees (2001) and Rahman and Akter (2014), where all respondents are engaged in agriculture, have access to land and labour and have diversified into other activities to spread income risk and security. Therefore, three livelihood income categories considered in this study are: ‘agricultural self-employment’, ‘Artisanal self-employment’ and ‘Wage employment’ (as categorical variables). This decision is based on the outcome of the survey that indicated that all the business owners in the study area combine more than one form of income activity. Therefore, the dependent variables are based on whether households earned income from one or combinations of these options. Although the survey captured information about the business owner's family, we consider only the business owners’ main occupations and income to categorise our dependent variables. The model is specified below:

$$Y^*_{ji} = \sigma_j + \beta_{j1}Z_{1ij} + \beta_{j2}Z_{2ij} + \dots + \beta_{jk}Z_{kij} + \epsilon_{ji} \dots \dots \dots (1)$$

$\sigma_j$  remains constant across alternatives

$\beta_{j,k}$  is a regression coefficient associated with the  $j$ th explanatory variable &  $k$ th outcome for  $j = 1, 2, 3, \dots, j = 1$ .

$\epsilon_{ji}$  is a random error term reflecting intrinsically random choice.

Where,

$Y_{ij}$  = Occupational choices by the farming business owners



Let  $Z_{ij}$  ( $j=1, 2, 3$ ) denote the probability associated with the three choices, with  $j = 1$  if the option is Agriculture only,  $j = 2$  if the option is agriculture combined with Artisanal,  $j = 3$  if the option is agriculture combined with Wage Employment.

The symbol  $Z$  denotes the set of independent variables:

$Z_1 =$  Age of business owners (years)

$Z_2 =$  Sex of business owners (Male=1, Female=0)

$Z_3 =$  Marital Status (Married=1, Others=0)

$Z_4 =$  Years of Schooling (years)

$Z_5 =$  Technical Education (Yes=1, No=0)

$Z_6 =$  Family Size (Number)

$Z_7 =$  Household Income (Naira)

$Z_8 =$  Membership of Social Group (Yes=1, No=0) (access to information was assessed through this variable)

$Z_9 =$  Access to Road (Yes=1, No=0)

$Z_{10} =$  Access to Credit/capital (Yes=1, No=0)

$Z_{11} =$  Access to Electricity (Yes=1, No=0)

#### *Multivariate Tobit Regression Model: Concept and Application*

The binary outcome measurement ignores the joint and/or simultaneous nature of the decision-making process and the self-selection of households into and out of occupational choices (Winters *et al.*, 2002; Yunez-Naude and Taylor, 2001). Failure to recognise interdependencies and endogeneity of occupational choice in analysing resource allocation problems results in biased and inefficient estimates. The advantage of the Tobit model is that it captures the decision to participate as well as the resulting outcome, whereas a Probit model will provide information on the decision to participate only (Rahman and Artker, 2014). The earlier literature on livelihood analysis is skewed towards using single-equation probit and logit models to model discrete choices (for example, Abdulai and CroleRees, 2001; Jansen *et al.*, 2006). Such models, however, are inappropriate to handle simultaneous and joint decisions. Multivariate models such as multinomial logit or multinomial Tobit models are applied to gauge decisions involving interdependent choices. Dorfman (1996) acknowledging the limitation of bivariate models to handle decisions involving interdependent decisions used multinomial Probit to model multiple, interlinked decisions. Suppose that  $U_j - U_p$ , represent a household's perceived utility for occupational choices  $j - k$  respectively and suppose also that  $X_j - X_p$  are vectors of explanatory variables that influence the perceived desirability of activities  $j - p$ . Following Green (2008), the linear random utility model could be specified as:

$$P(Y=1|X) = P(U_{ij} > U_{ip})$$

$$= P(\beta_j' X_j + \varepsilon_j - \beta_k' X_i - \varepsilon_p > 0 | X)$$

$$= P(\beta_j' X_i - \beta_p' X_i + \varepsilon_j - \varepsilon_p > 0 | X)$$

$$= P(\beta^* X_i + \varepsilon^* > 0 | X) = F(\beta^* X_i)$$

Where  $P$  is a probability function,  $U_{ij}$ ,  $U_{ip}$  and  $X_{ij}$  are as defined above,  $\varepsilon^* = \varepsilon_j - \varepsilon_p$  is a random disturbance term,  $\beta^* = \beta_j - \beta_p$  is a vector of unknown parameters which can be interpreted as the net influence of the vector of independent variables influencing choice, and  $F(\beta^* X_i)$  is the cumulative distribution function of  $\varepsilon^*$  evaluated at  $\beta^* X_i$ . The exact distribution of  $F$  depends on the distribution of the random disturbance term  $\varepsilon^*$

$Z$  denotes a set of independent variables:



$N_1 =$  Age of business owners (years)

$N_2 =$  Sex of business owners (Male=1, Female=0)

$N_3 =$  Marital Status (Married=1, Others=0)

$N_4 =$  Years of Schooling (years)

$N_5 =$  Technical Education (Yes=1, No=0)

$N_6 =$  Family Size (Number)

$N_7 =$  Membership of Social Group (Yes=1, No=0) (access to information was assessed through this variable)

$N_8 =$  Access to Road (Yes=1, No=0)

$N_9 =$  Access to Credit/capital (Yes=1, No=0)

$N_{10} =$  Access to Electricity (Yes=1, No=0)

### [INSERT TABLE 5 HERE]

#### *Determinants of Occupational Choice by Business owners – A Multinomial Logit Analysis*

The determinants of the occupational choices made by business owners in the study area was modeled using the multinomial logit regression model. The scale of significance used was 1 - 10% level. The result of the analysis showed a model diagnostics of log likelihood of -259.64 and LR  $\chi^2$  of 366.04 measures which ratifies the significance and suitability of the model and the variables selected (Table 6). The result of the multinomial logit regression shows that younger respondents are more likely to take up artisanal enterprise and wage employment relative to agricultural enterprise. This holds a lot of implication for possible decline in food production in the area given the current practice and aging population of food producers. The result shows that female respondents are more likely to take up artisanal and wage employment relative to males (Leitão, 2016). The men are more likely to engage in agricultural enterprises relative to women who tend to engage in other occupational choices. More married business owners were found to engage in artisanal enterprise, and less in wage employment relative to agricultural enterprise ( $p < 0.01$ ).

The findings showed that respondents with higher years of schooling engage more in artisanal and wage employment relative to agricultural enterprises. Respondents who had technical education engaged more in artisanal enterprise (+ve,  $p < 0.01$ ) while lesser proportion were observed to take up wage employment (negative and significant at 5%,  $p < 0.05$ ). Business owners who had larger family size were less engaged in artisanal enterprise relative to wage employment. Respondents who are members of social group ( $p < 0.01$ ), had access to credit ( $p < 0.001$ ), access to road and access to electricity had higher likelihood of engagement in artisanal enterprise relative to agricultural enterprise (Table 6). Business owners who were members of social groups and who had access to electricity were also engaged in wage employment relative to agricultural enterprise.

### [INSERT TABLE 6 HERE]

The signs of the coefficient from the regression analysis show the direction of the socio-economic and infrastructural variables on the policies in favour of artisanal entrepreneurship and agricultural entrepreneurship. The result suggests that artisanal and non-farm activities can be encouraged when infrastructural facilities are provided, accessible and affordable.

#### *Determinants of Occupational Choices & Intensity of Participation*

Multivariate Tobit model was used to assess the jointness in the decisions about the occupational choices of the respondents. It accounts for the simultaneity and/or

interdependence of the decisions made by the respondents. The income from the agricultural, artisanal and wage occupational choices was used as the dependent variable. The result of the analysis showed a model diagnostics of log likelihood of  $-12,967.96$  and Wald  $\chi^2$  of  $1463.71$  measures which ratify the significance and suitability of the model and the variables selected (Table 7). The result of the multivariate Tobit regression analysis on the sampled data showed that older respondents are more in agricultural enterprise relative to artisanal and wage enterprises which have younger respondents. Furthermore, male respondents are more engaged in agricultural and artisanal enterprises relative to wage employment that has more females (see, for example, Leitão, 2016).

#### [INSERT TABLE 7 HERE]

The study showed that married respondents are more into agricultural and artisanal enterprises with a higher level of significance noted for agrarian enterprises. Higher years of schooling and exposure to technical education had a positive effect on the decision to take up agricultural and artisanal enterprises. Access to credit positively influenced the decision for agrarian enterprises while membership of social group positively influenced the decision for artisanal entrepreneurship and wage employment. Access to electricity had a positive effect on the agricultural and artisanal enterprises and wage employment at 1% level of significance.

#### *Focus Group*

The survey was followed up with a focus group of seven experienced artisan business owners (4 men and 3 women) to validate some of the responses, and clarify some important trends captured from the questionnaire survey. This method was employed as means of triangulation and questionnaire validation (Usman, 2010). It also offered opportunity to explore participants views on the development of artisanal enterprises in the study area. There is a wealth of resources on the relative merits of the focus group method, and its contribution to research practice (Krueger and Casey, 2000; Morgan, 1993). They are best used where “why?” “what?” and “how?” questions are required (Holtzhausen, 2001). Participants of the focus group provided some clarity and contributions regarding the notion of OE vis-à-vis NE. Members of the focus group emphasised that most of the artisanal and non-farm businesses results from necessity rather than opportunity. Also, the general views of the participants were that past policies in Nigeria have not been very successful in development in either agricultural and/or artisanal enterprises.

Participants suggested that policies and programmes should be specifically targeted at young people, preferably women who have higher levels of formal education as many of them were pushed into artisanal activities rather than an as an opportunity. In addition, many participants believed that technical or apprenticeship training should be promoted in the study area with possible implications for the national economy. Majority of the views point to the changing landscape of the rural economy, where farming is no longer a significant source of income and livelihood, rather through a combination of non-farm activities, including local handicrafts and artisanal activities. Only few of the participants, were of the view that the focus of development should be on farming and not on non-farm activities. They opined that attempt to promote artisanal entrepreneurship would have negative implications for agricultural production.

#### **Discussion**

Artisanal activities constitute a high proportion of rural activity in the study context – with

1  
2  
3 more than half (54.2%) of respondents being classified as artisans. In addition to this  
4 observation, the results from the study also revealed that some artisanal ventures were more  
5 gender-skewed (e.g. carpentry, general repairs such as maintenance services, electrical  
6 repairs, plumbing, auto mechanics, etc.). Majority of these activities are family businesses,  
7 having family members working either part-time, full-time or voluntary. Also, the majority of  
8 rural farm, non-farm and artisanal activities are informal. In this study, as much as 82% of  
9 businesses were found to be informal. Whereas men dominate in farming activities with 15.1%  
10 (women 3.8%), women dominate in non-farm and artisanal activities with 51% (men, 30%).  
11 One of the explanations for the differences in occupational choices between men and women  
12 is culture and tradition that tends to favour men over ownership of assets such as land in rural  
13 communities.

14  
15 Another significant feature of artisan entrepreneurs in the study area is that majority  
16 (82%) are young people of the age 20-45 years. This has implications due to the high rate of  
17 unemployment in Nigeria where young people are pushed or see opportunities in the form of  
18 self-employment. The mean of years of education was 6.9 years, an indication of a low level  
19 of education among the respondents. The results revealed that majority of the respondents  
20 were self-training about 38.2%, an indication of lack of access to apprenticeship or technical  
21 training schemes. Also, there is a high level of large family size (with an average of 10.3  
22 people per family). From the focus group discussion, one of the reasons for the high family  
23 size could be attributed to need for agricultural family labour.

24  
25 Nigeria leads the world in the proportion of the population who believe they have the  
26 skills to run a business; almost 90% of Nigerian adults think they could become entrepreneurs  
27 (GEM, 2014). However, these entrepreneurs are constrained by the institution, described as  
28 political, social and legal ground rules within which businesses operate. This study revealed  
29 several socio-economic, political and environmental factors that prevent artisanal  
30 entrepreneurs who want to start or grow their businesses. Five factors revealed as major  
31 obstacles to rural artisanal, and non-farm businesses are inadequate and lack of electricity  
32 (76.1%), poor access to finance and credit (80%), lack of access to information (70%),  
33 corruption in the public services (74.5%) and cultural barriers, including gender issues (67%).  
34 Several studies have shown similar findings (World Bank Enterprise Survey, 2014). In the  
35 Enterprise Survey, business owners were presented with a list of 10 business environment  
36 obstacles and asked to choose the biggest obstacle to their business. Access to finance, access  
37 to electricity and the level of corruption was the most ranked obstacles for firms with 33.1%,  
38 27.2% and 12.7% respectively (World Bank Enterprise Survey, 2014). Some studies point to  
39 corruption as the significant socio-economic and institutional problem in Nigeria, which  
40 appears embedded in the culture (Igwe *et al.*, 2017 and Igwe *et al.*, 2018a and 2018d).

41  
42 A multinomial logistic regression model was used to identify the factors affecting the  
43 occupational choices made by business owners. This method was chosen since the results of  
44 the survey indicated that all the business owners in the study combined more than one form  
45 of income activity. As a result, three livelihood categories were considered as the dependent  
46 variables – 'agricultural self-employment', 'Artisanal self-employment' and 'Wage  
47 employment'. While, the vector of independent variables influencing occupational choice  
48 (socio-economic and cultural factors) was the age of business owners, Gender, Marital Status,  
49 years of schooling (years), Technical education, Family size, membership of a social group,  
50 access to road, access to credit and access to electricity. Multivariate models such as  
51 multinomial Logit or multinomial Tobit models are applied to gauge decisions involving  
52 interdependent choices.

53  
54 The result of the multinomial logit regression shows that younger respondents are  
55 more likely to take up artisanal enterprise and wage employment relative to agricultural  
56 enterprise. The result also indicated that women were more likely to take up artisanal and  
57  
58  
59  
60

wage employment relative to males, whereas men are more likely to engage in agricultural enterprises. The findings showed that respondents with higher years of schooling participate more in artisanal and wage employment relative to agrarian enterprises. Business owners who had technical education engaged more in an artisanal enterprise (+ve,  $p < 0.01$ ), while minor proportion was observed to take up wage employment (negative and significant at 5%,  $p < 0.05$ ). Also, business owners who had larger family size were less engaged in artisanal enterprise relative to wage employment. In a similar trend, respondents who are members of social groups ( $p < 0.01$ ), had access to credit ( $p < 0.001$ ), while, access to road and access to electricity had a higher likelihood of engagement in artisanal enterprise relative to agricultural enterprise. The implications of these findings suggest that artisanal and non-farm activities can be encouraged when these factors are available and accessible.

Despite the contributions of this study, it has its limitations, which provide avenues for future research. For example, there is a need to explore more variables than those outlined in this study to tease out other possible determinants accounting for engagement in an artisanal enterprise such as remittances, location (in terms of rural and urban/city centres) through experimental research. Furthermore, future research could adopt a purely qualitative approach to ensure a deeper understanding of the sociocultural context in which artisanal entrepreneurs operate in the developing world context. This will present an excellent opportunity for understanding the underlying perceptions, behaviours, motivations and attitudes towards artisans (see, for example, Krueger and Casey 2000). Another opportunity will be to test whether firms in urban, semi-rural, and rural areas perceive each of the obstacles or variables to their success differently (see, for example Lyee and Cowling, 2015). In their study, Lyee and Cowling (2015) posit that firms in rural and urban areas differ in their characteristics, and these may have more important influences on firm growth than location.

### Conclusion and Implications

This study has sought to highlight the characteristics of rural artisan entrepreneurs, the determinants of their decision to engage in an artisanal activity, and the challenges that impact upon their growth and contribution to the economy – taken from a developing world context. The study found that artisanal entrepreneurial activities often took the form of informal, low skilled, and family-oriented dimensions. Most of the activities from the research were also found to have a gender bias where women dominated the lower employee sector(s). The study used a multi-nominal regression to explore the determinants of diversified artisanal livelihoods, modelling differences between farm owners that have not diversified, with those involved in small-scale activity or wage employment. Following this, the study assessed variables relating to the intensity of participation.

The results of the multinomial logit regression showed that factors such as access to education, credit, vocational training, infrastructure (i.e. roads and electricity) had a higher likelihood of engagement in artisanal activities. Given that the findings suggest that most of the artisanal and non-farm businesses were a necessity (or NE) driven, public policy is required to support these activities, especially artisanal businesses (see, for example, Nwankwo *et al.*, 2010). An international standard demonstrating the successful use of local craft heritage to promote 'sense of place' is the 'Hand-Made in America' initiative, which has a 20-year history of using craft to promote local economic vitality (Brown, 2015).

While acknowledging the comments of Jones and González-Cruz (2017, p. 847) about "turning Kurt Lewin on his head: nothing is so theoretical as a good practice," we add that good practice can emerge from theoretical insights which have policy implications. It is against this backdrop that this study suggests robust and pragmatic policies aimed at promoting youth employment and reducing poverty in Nigeria to concentrate on education,



1  
2  
3 apprenticeships, and access to credit, with a view to catalysing participation in artisanal and  
4 non-farm activities (albeit not to the detriment of farming activities). Two main contributions  
5 emerge from this study. First, the use of econometric methods enabled development of valid  
6 data sets (and various descriptive statistical and logit regression) to analyse determinants of  
7 the decision to engage in artisanal work, and the intensity of participation. Second, the  
8 ambiguity in categorising artisanal activities is unravelled. The study characterises the local  
9 artisanal sector and examines the intensity of participation. Without these, targeted support  
10 would remain elusive for practical and policy interventions.

## 11 **References**

- 12  
13 Abdulai, A., and CroleRees, A. (2001), “Determinants of income diversification amongst  
14 rural households in southern Mali”, *Food Policy*, 26(4), pp.437–452.
- 15 African Development Bank (AfDB, 2013), Recognizing Africa’s Informal Sector, 27 March.  
16 [https://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-](https://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/recognizing-africas-informal-sector-11645/)  
17 [africa/post/recognizing-africas-informal-sector-11645/](https://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/recognizing-africas-informal-sector-11645/)
- 18 Aidis, R., Estrin, S., and Mickiewicz, T. M. (2012), “Size matters: entrepreneurial entry and  
19 government”, *Small Business Economics*, 39(1), pp.119-139.
- 20 Aikaeli, J. (2010), Determinants of Rural Income in Tanzania: “*An Empirical Approach*”  
21 Research on Poverty Alleviation REPOA, 10/4.
- 22 Amin, M. (2009), Necessity vs. Opportunity Entrepreneurs in the informal sector. Enterprise  
23 Analysis Unit, World Bank, Washington DC.  
24 <file:///F:/Necessity%20Entrepreneurship%20and%20Informality.pdf>
- 25 Apostolopoulos, N., Newbery, R., and Gkartzios, M. (2018), “Social enterprise and  
26 community resilience: Examining a Greek response to turbulent times”, *Journal of*  
27 *Rural Studies*, e-pub ahead of print.
- 28 Bagwell, S. (2018), “From mixed embeddedness to transnational mixed embeddedness: An  
29 exploration of Vietnamese businesses in London”, *International Journal of*  
30 *Entrepreneurial Behavior & Research*, 24(1), pp.104-120.
- 31 Barrett, C., Reardon, T. and Webb, P. (2001), “Non-farm income diversification and  
32 household livelihood strategies in rural Africa: concepts, issues, and policy  
33 implications”, *Food Policy*, 26(4), pp. 315–331.
- 34 Block, J. and Wagner, M. (2010), “Necessity and Opportunity Entrepreneurs in Germany:  
35 Characteristics and Earnings Differentials”, *Schmalenbach Business Review*, 62(2),  
36 pp. 154–174.
- 37 Blundel, R. (2002), “Network evolution and the growth of artisanal firms: a tale of two  
38 regional cheese makers”, *Entrepreneurship & Regional Development*, 14(1), pp. 1-30.
- 39 Bouette, M. and Magee, F. (2015), “Hobbyists, artisans and entrepreneurs: Investigating  
40 business support and identifying entrepreneurial profiles in the Irish craft  
41 sector”, *Journal of Small Business and Enterprise Development*, 22(2), pp. 337-351.
- 42 Bräutigam, D. (1997), “Substituting for the state: Institutions and industrial development in  
43 Eastern Nigeria”, *World Development*, 25(7), pp. 1063-1080.
- 44 Brew, A., Boud, D., Lucas, L. and Crawford, K. (2017), Academic artisans in the research  
45 university, *High Education*, DOI 10.1007/s10734-017-0200-7. Springer Science +  
46 Business Media B.V.
- 47 Brewer, J. and Gibson, S.W. (2014), “Necessity Entrepreneurs”, *Microenterprise Education*  
48 *and Economic Development*. ISBN: 978 1 78195 617 5.
- 49 Brown, J. (2015), Making It Local: what does this mean in the context of contemporary craft?  
50 Arts and Crafts Council, England.  
51 [http://www.craftscouncil.org.uk/content/files/Crafts\\_Council\\_Local\\_Report\\_Web\\_SinglePages.pdf](http://www.craftscouncil.org.uk/content/files/Crafts_Council_Local_Report_Web_SinglePages.pdf)



- 1  
2  
3 Calderon, G., Lacovone, L. and Juarez, L. (2017), "Opportunity versus Necessity:  
4 Understanding the Heterogeneity of Female Micro-Entrepreneurs", *World Bank*  
5 *Economic Review*, 30 (Suppl. 1), S86-S96.
- 6 Carney, D. (1998), "Implementing the Sustainable Rural Livelihood Approach." In D. Carney  
7 (Ed.) *Sustainable Rural Livelihoods: What Contribution Can We Make?* London:  
8 Papers Presented at the Department for International Development's Natural  
9 Resources Advisers Conference. July.
- 10 Carsrud, A. and Cucculelli, M. (2014), "Family firms, entrepreneurship, and economic  
11 development", *Journal of Small Business Management*, 52(2), pp. 189–191.
- 12 Chambers, R. and Conway, G. R. (1992), "Sustainable Rural Livelihoods; practical concepts  
13 for 21<sup>st</sup> Century", *IDS Discussion paper 296*, Institute of Development Studies. ISBN:  
14 0-903715-58-9.
- 15 Chutia, L. J. and Sarma, M. K. (2016), "Commercialization of Traditional Crafts of South  
16 and South-East Asia: A Conceptual Model based on Review of the literature", *IIM*  
17 *Kozhikode Society & Management Review*, 5(2), pp.107–119.
- 18 Cohen, J. (1998), "Craft Production and the Challenge of the Global Market: An Artisans'  
19 Cooperative in Oaxaca, Mexico". *Human Organization*, 57(1), pp.74-82.
- 20 Cooper, D. R., and Schindler, P. S. (2006), *Business Research Methods* (Ninth ed.). McGraw-  
21 Hill/Irwin.
- 22 Dana, L-P. (1999), "Preserving culture through small business: government support for  
23 artisans & craftsmen in Greece". *Journal of Small Business Management*, 37(1),  
24 pp.90-92.
- 25 Davidsson, P. (2015), "Entrepreneurial opportunities and the entrepreneurship nexus: A re-  
26 conceptualization", *Journal of Business Venturing*, 30 (5), pp.674-695.
- 27 Department for International Development (DFID, 2000), Sustainable Livelihoods – current  
28 thinking and practice, Department for International Development, London.  
29 [http://www.livelihoods.org/info/info\\_guidancesheets.html](http://www.livelihoods.org/info/info_guidancesheets.html)
- 30 Dorfman, J. H. (1996), "Modelling multiple adoption decisions in a joint framework",  
31 *American Journal of Agricultural Economics*, 78(3), pp.547-557.
- 32 Duran, P., Kammerlander, N., van Essen, M. and Zellweger, T. (2016), "Doing more with  
33 less: innovation input and output in family firms", *Academy of Management Journal*,  
34 59(4), pp.1224-1264.
- 35 Estrada-Robles, M. (2016), "Family Entrepreneurship: Rethinking the Research Agenda",  
36 *International Journal of Entrepreneurial Behavior & Research*, 22 (6), pp. 984-985
- 37 Fabusoro, E., Omotayo, A., Apantaku, S., and Okuneye, P. (2010), "Forms and Determinants  
38 of Rural Livelihoods Diversification in Ogun State, Nigeria", *Journal of Sustainable*  
39 *Agriculture*, 34(4), pp. 417-438.
- 40 Fairlie, R. W., and Fossen, F. M. (2017), Opportunity versus Necessity Entrepreneurship:  
41 Two Components of Business Creation. Stanford Institute for Economic Policy  
42 Research, Stanford University, *Discussion Paper*, No. 17-014  
43 <https://siepr.stanford.edu/sites/default/files/publications/17-014.pdf>
- 44 Foote, W. (2015), Tapping the Potential of The Artisan Economy. *Forbes*, September 29.  
45 [https://www.forbes.com/sites/willyfoote/2015/09/29/tapping-the-potential-of-the-](https://www.forbes.com/sites/willyfoote/2015/09/29/tapping-the-potential-of-the-worlds-fourth-largest-economy/#55bba92d1aa2)  
46 [worlds-fourth-largest-economy/#55bba92d1aa2](https://www.forbes.com/sites/willyfoote/2015/09/29/tapping-the-potential-of-the-worlds-fourth-largest-economy/#55bba92d1aa2)
- 47 Forero-Montaña, J., Zimmerman, J.K. and Santiago, L.E., 2017. Analysis of the potential of  
48 small-scale enterprises of artisans and sawyers as instruments for sustainable forest  
49 management in Puerto Rico. *Journal of Sustainable Forestry*, pp.1-13.
- 50 García, María-Cristina D. and Welter, F. (2011), "Gender identities and practices:  
51 Interpreting women entrepreneurs' narratives", *International Small Business Journal*,  
52 31(4) pp. 384–404.

- 1  
2  
3 GEM (2014), Africa's Young Entrepreneurs: Unlocking the Potential for a better future.  
4 Global Entrepreneurship Monitor.
- 5 GEM (2015), Supporting Africa's Young Entrepreneurs: an investment in job creation and  
6 future prosperity for all: Nigeria. [file:///F:/GEM%202015-youth-report-summaries-  
7 Nigeria-1434104122.pdf](file:///F:/GEM%202015-youth-report-summaries-Nigeria-1434104122.pdf)
- 8 GEM (2017), Global Entrepreneurship Monitor 2016/2017 Report on Women's  
9 Entrepreneurship. <file:///F:/GEM%202016-2017%20Womens%20Report.pdf>
- 10 Grimes, K. M. and Milgram, B. L. (2000), Artisans & Cooperatives: Developing Alternative  
11 Trade for the Global Economy, pp. 11–24. Arizona: University of Arizona Press.
- 12 Herrington, M., and Kelley, D. (2012), African Entrepreneurship. Sub-Saharan African  
13 Region Report, Global Entrepreneurship Monitor.  
14 [https://www.babson.edu/Academics/centers/blank-center/global-  
15 research/gem/Documents/GEM%202012%20Africa%20Report.pdf](https://www.babson.edu/Academics/centers/blank-center/global-research/gem/Documents/GEM%202012%20Africa%20Report.pdf)
- 16  
17 Higgins, D., Trehan, K. and McGowan, P. (2015), “Developing perspectives and challenging  
18 the ‘status quo’”, *International Journal of Entrepreneurial Behavior & Research*,  
19 21(3), <https://doi.org/10.1108/IJEBr-03-2015-0061>
- 20 Hockerts, K., Muñoz, P., Janssen, F. and Nicolopoulou, K. (2018), “Advancing sustainable  
21 entrepreneurship through substantive research”, *International Journal of*  
22 *Entrepreneurial Behavior & Research*, 24(2), pp.322-332.
- 23 Holtzhausen, S. (2001), Triangulation as a powerful tool to strengthen the qualitative research  
24 design: The Resource-based Learning Career Preparation Programme (RBLCPP) as a  
25 case study. Presented at the Higher Education Close Up Conference 2, Lancaster  
26 University, 16-18 July. <http://www.leeds.ac.uk/educol/documents/00001759.htm>
- 27 IFAD (2009), Rural Enterprise and Poverty Reduction, Asia and the Pacific Division, Rome,  
28 Italy: International Fund for Agricultural Development.
- 29 IFAD (2012), Promoting rural enterprise growth and development: Lessons from four  
30 projects in Sub-Saharan Africa: *Enabling poor rural people to overcome poverty*.  
31 Rome, Italy: International Fund for Agricultural Development.
- 32  
33 Igwe, P. A. (2016), *Entrepreneurial ecosystems and the role of government in promoting*  
34 *entrepreneurship*. In: Building entrepreneurial universities in a developing economy:  
35 issues, challenges and prospects. Festschrift, pp. 30-55. ISBN UNSPECIFIED.
- 36 Igwe, P. A., Amaugo, A. N., Ogundana, A., Egere, O. M. and Anigbo, J. A. (2018), “Factors  
37 Affecting the Investment Climate, SMEs Productivity and Entrepreneurship in  
38 Nigeria”, *European Journal of Sustainable Development*, 7(1), pp.182-200.
- 39 Igwe, P. A., Icha-Ituma, A., and Madichie, N. (2018), “An Evaluation of CSR and Social  
40 Value Practices Among UK Commercial and Social Enterprises”, *Entrepreneurial*  
41 *Business and Economics Review*, 6(1), pp.37-52.
- 42  
43 Igwe, P. A., Newbery, R. and Icha-Ituma, A. (2018), Entrepreneurship challenges and gender  
44 issues in the African informal rural economy, In *Knowledge, learning and innovation,*  
45 *Research insights into cross-sector collaboration*. Springer International.
- 46 Igwe, P. A., Newbery, R., White, G. T. and Nihar, A. (2017), “Keeping it in the family:  
47 Exploring Tribal Entrepreneurial Behaviour in Nigeria”. The Institute for Small  
48 Business and Entrepreneurship (ISBE) Conference Paper, 8 – 9 November, Belfast.
- 49 Igwe, P. A., Onjewu, A. E. and Nwibo, S. U. (2018), Entrepreneurship and SMEs'  
50 productivity challenges in sub-Saharan Africa. In: *African entrepreneurship:*  
51 *challenges and opportunities for doing business*, Palgrave Macmillan.
- 52  
53 Jansen, H.G.P., Pender, J., Damon, A., Wielimaker, W. and Schipper, R. (2006), “Policies for  
54 sustainable development in the hillside areas of Honduras” A quantitative livelihoods  
55 approach. *Agricultural Economics*, 34(2), pp.141–153.
- 56  
57  
58  
59  
60

- 1  
2  
3 Jones, P. and González-Cruz, T. F. (2017), "Seeking recognition and growth", *International*  
4 *Journal of Entrepreneurial Behavior & Research*, 23(6), pp. 846-849.
- 5 Kabongo, J. D., and Okpara, J. O. (2010), "Entrepreneurship education in SSA universities",  
6 *International Journal of Entrepreneurial Behavior & Research*, 16(4), pp.296-308.
- 7 Kautonen, T. and Palmroos, J. (2010), "The Impact of a Necessity-Based Start-Up on  
8 Subsequent Entrepreneurial Satisfaction", *International Entrepreneurship and*  
9 *Management Journal*, 6(3), pp.285-300.
- 10 Khavul, S., Bruton, G. and Wood, E. (2009), "Informal family business in Africa",  
11 *Entrepreneurship Theory and Practice*, 33(6), pp. 1217–1236.
- 12 Koyana, S. and Mason, R. B. (2017), "Rural entrepreneurship & transformation: the role of  
13 leadership", *International J. of Entrepreneurial Behavior & Research*, 23(5), 734-  
14 751.
- 15 Krantz, L. (2001), *The Sustainable Livelihood Approach to Poverty Reduction; An*  
16 *Introduction*. Swedish International Development Cooperation Agency (SIDA).
- 17 Kraus, S., Meier, F. and Niemand, T. (2016), "Experimental methods in entrepreneurship  
18 research: the status quo", *International Journal of Entrepreneurial Behavior &*  
19 *Research*, 22(6), pp. 958-983, <https://doi.org/10.1108/IJEBR-05-2016-0135>
- 20 Krishna, A. and Shariff, A. (2011), "The Irrelevance of National Strategies? Rural Poverty  
21 Dynamics in States and Regions of India, 1993-2005", *World Development*, 39(4),  
22 pp.533-549.
- 23 Krueger, R. and Casey, M. A. (2000), "Focus Groups: A Practical Guide for Applied  
24 Research (3rd edition). Thousand Oaks, CA: Sage.
- 25 Kuzilwa, J. (2005), "The role of credit for small business success: A study of the National  
26 Entrepreneurship Development Fund in Tanzania", *The Journal of Entrepreneurship*,  
27 14(2), pp. 31-42.
- 28 Lanjouw, J. O. and Lanjouw, P. (2001), "The rural non-farm sector: issues and evidence  
29 from developing countries", *Agricultural Economics*, 26(1), pp.1-23.
- 30 Leitão, J. (2016), "Female Entrepreneurship in Transition Economies - Trends and  
31 Challenges: A Critical Review", *International Journal of Entrepreneurial Behavior &*  
32 *Research*, 22(2), pp. 282-284, <https://doi.org/10.1108/IJEBR-10-2015-0226>
- 33 Lounsbury, M. and Glynn, M.A. (2001), "Cultural entrepreneurship stories, legitimacy and  
34 the acquisition of resources", *Strategic Management Journal*, 22, pp. 545-564.
- 35 Lyee, N. and Cowling, M. (2015), "Do rural firms perceive different problems? Geography,  
36 sorting, and barriers to growth in UK SMEs", *Environment and Planning C:*  
37 *Government and Policy*, 33(1), pp.25-42.
- 38 Madichie, N., Nkamnebe, A. D., and Idemobi, E. I. (2008), "Cultural determinants of  
39 entrepreneurial emergence in a typical sub-Saharan African context", *Journal of*  
40 *Enterprising Communities: People and Places in the Global Economy*, 2(4), pp.285-  
41 299.
- 42 Madichie, N. and Nkamnebe, A. D. (2010), "51 Iweka Road (Onitsha, Nigeria): could this  
43 single African address redefine business cluster development"? *World Review of*  
44 *Entrepreneurship, Management and Sustainable Development*, 6(3), pp. 229-243.
- 45 Matzler, K., Veider, V., Hautz, J. and Stadler, C. (2015), "The impact of family ownership,  
46 management, and governance on innovation", *Journal of Product Innovation*  
47 *Management*, 32(3), pp. 319-333.
- 48 Markwick, M. C. (2001), "Tourism and the development of handicraft production in the  
49 Maltese islands", *Tourism Geographies: An International Journal of Tourism Space,*  
50 *Place and Environment*, 3(1), pp. 29–51.
- 51 Meagher, K. (2010), *Identity economics: social networks & informal economy in Nigeria.*  
52 Boydell & Brewer.
- 53  
54  
55  
56  
57  
58  
59  
60

- 1  
2  
3 McDonald, S., Gan, B., Fraser, S., Oke, A. and Anderson, A. (2015), "A review of research  
4 methods in entrepreneurship 1985-2013", *International Journal of Entrepreneurial  
5 Behavior & Research*, 21(3), pp. 291-315.
- 6 Miao, C., Qian, S. and Ma, D., 2017. The Relationship between Entrepreneurial Self-  
7 Efficacy and Firm Performance: A Meta-Analysis of Main and Moderator  
8 Effects. *Journal of Small Business Management*, 55(1), pp.87-107.
- 9 Michiels, A. and Molly, V. (2017), "Financing decisions in family businesses, A review and  
10 suggestions for developing the field", *Family Business Review*, 30(4), pp.369-399.
- 11 Morgan, D. L. (1993), *Successful focus groups: advancing the state of the art*. Newbury  
12 Park, CA, Sage.
- 13 Morse, S. and McNamara, N. (2013), *Sustainable Livelihood Approach*. A critique of  
14 Theory and Practice, XVIII, ISBN:978-94-007-6267-1
- 15 Muhammad, N., McElwee, G. and Dana, L-P. (2017), "Barriers to the development and  
16 progress of entrepreneurship in rural Pakistan", *International Journal of  
17 Entrepreneurial Behavior & Research*, 23(2), pp.279-295.
- 18 Munro, D., (1995) (Ed.), *Aba. The Oxford Dictionary of the World*. Oxford, UK: Oxford  
19 University Press. ISBN 0-19-866184-3.
- 20 National Bureau of Statistics (NBS, 2012), Report based on surveys in Nigeria by National  
21 Bureau of Statistics (NBS), Federal Ministry of Agriculture and Rural Development.
- 22 Newbery, R., Gorton, M., Phillipson, J., and Atterton, J. (2016), "Sustaining business  
23 networks: Understanding the benefit bundles sought by members of local business  
24 associations", *Environment & Planning C: Government & Policy*, 34(7), pp.1267- 83.
- 25 Newbery, R., Sauer, J., Gorton, M., Phillipson, J., and Atterton, J. (2013), "Determinants of  
26 the performance of business associations in rural settlements in the United Kingdom:  
27 an analysis of members' satisfaction and willingness-to-pay for association survival",  
28 *Environment and Planning A*, 45(4), pp.967-985.
- 29 Nwankpa, N. (2017), "Sustainable Agricultural Development in Nigeria: A Way Out of  
30 Hunger and Poverty", *European Journal of Sustainable Development*, 6(4), 175-184.
- 31 Nwankwo, S., Akunuri, J. and Madichie, N. (2010), "Supporting black businesses:  
32 narratives of support providers in London", *International Journal of Entrepreneurial  
33 Behavior & Research*, 16(6), pp.561-580,  
34 <https://doi.org/10.1108/13552551011083541>
- 35 Nwankwo, S., Madichie, N. and Ekwulugo, F. (2005), "Methodological issues in  
36 researching ethnic entrepreneurship: African entrepreneurship in  
37 London", *International Journal of Entrepreneurship Education*, 2(4), pp. 483-500.
- 38 Ocholor, C. L. (2011), "Failure of leadership in Nigeria", *American Journal of Social and  
39 Management Sciences*, 2(3), pp.265-271.
- 40 Rahman, S. and Akter, S., 2014. Determinants of livelihood choices: An empirical analysis  
41 from rural Bangladesh. *Journal of South Asian Development*, 9(3), pp.287-308.
- 42 Ramalho, J.J., Rita, R.M. and da Silva, J.V., 2018. The impact of family ownership on  
43 capital structure of firms: Exploring the role of zero-leverage, size, location and the  
44 global financial crisis. *International Small Business Journal*, p.0266242617753050.
- 45 Ratten, V. and Ferreira, J. (2017), "Future research direction for cultural entrepreneurship  
46 and regional innovation", *International Journal of Entrepreneurship and Innovation*,  
47 21(3), pp. 163-169.
- 48 Revilla, A. J., Perez-Luno, A. and Nieto, M. J. (2016), "Does family involvement in  
49 management reduce the risk of business failure? The moderating role of  
50 entrepreneurial orientation", *Family Business Review*, 29(4), pp. 365-379.
- 51 Robson, C. (2002), *Real world research* (Second ed.), Malden, MA: Blackwell Publishing.
- 52  
53  
54  
55  
56  
57  
58  
59  
60



- 1  
2  
3 Seedhouse A, Johnson R., and Newbery R. (2016), "Potholes and pitfalls: The impact of  
4 rural transport on female entrepreneurs in Nigeria", *Journal of Transport Geography*,  
5 54, pp.140-47.
- 6 Sennet, R. (2008), *The Craftsman*. London: Allen Lane.
- 7 Shastri, R. K. & Sinha, A. (2010), "The socio-cultural and economic effect on the  
8 development of women entrepreneurs", *Asian J. of Business Management*, 2(2), 30-  
9 34.
- 10 SMEDAN (2013), Small and Medium Enterprise Development Agency of Nigeria  
11 (SMEDAN) and National Bureau of Statistics collaborative survey: selected findings.  
12 [http://nigerianstat.gov.ng/pdfuploads/SMEDAN%202013\\_Selected%20Tables.pdf](http://nigerianstat.gov.ng/pdfuploads/SMEDAN%202013_Selected%20Tables.pdf)
- 13 Steel, W. F. (1979), "Development of the urban artisanal sector in Ghana and  
14 Cameroun", *The Journal of Modern African Studies*, 17(2), pp. 271-284.
- 15 Stets, J. E. and Burke, P. J. (2000), "Identity Theory and Social Identity Theory", *Social*  
16 *Psychology Quarterly*, 63(3), pp. 224 – 237
- 17 Stephen, O. and Lenihan, E. (2010), "Rural Livelihood Insecurity in Eksako East of Edo  
18 State, Nigeria", *Journal of Sustainable Development*, 5(1/2), pp.1-11.
- 19 Swanson, K. K., and Timothy, D. J. (2012), Souvenirs: Icons of meaning,  
20 commercialisation and commoditization", *Tourism Management*, 33(3), pp. 489–499.
- 21 Taylor, M. P. (1996), "Earnings, Independence or Unemployment: Why Become Self-  
22 Employed?", *Oxford Bulletin of Economics and Statistics*, 52(2), pp.253-265.
- 23 Tregear, A. (2005), "Lifestyle growth or community involvement? The balance of goals of  
24 artisan food producers", *Entrepreneurship and Regional Development*, 17(1), pp. 1-  
25 15.
- 26 Turner, J. C., Michael, A. H., Oakes, P. J., Reicher, S. D. and Wetherell, M. S. (1987),  
27 *Rediscovering the Social Group: A Self-Categorization Theory*. Basil Blackwell
- 28 Ugwu, E. (2016), Made-in-Aba Products Excite Nigerians. *This Day Newspapers*, Dec. 5.
- 29 United Nations (2008), Rural Women in a Changing World: Opportunities and Challenges.  
30 United Nations, Division for the Advancement of Women. Department of Economic  
31 and Social Affairs.  
32 [http://www.un.org/womenwatch/daw/public/Women%202000%20-  
33 %20Rural%20Women%20web%20English.pdf](http://www.un.org/womenwatch/daw/public/Women%202000%20-%20Rural%20Women%20web%20English.pdf)
- 34 Usman, L. M. (2010), "Street hawking and socio-economic dynamics of nomadic girls of  
35 northern Nigeria", *International Journal of Social Economics*, 37(9), pp.717-734.
- 36 Vanguard (24 January 2018) Why recharge card printing business may fade out soon.  
37 Retrieved from: [https://www.vanguardngr.com/2018/01/recharge-card-printing-  
38 business-may-fade-soon/](https://www.vanguardngr.com/2018/01/recharge-card-printing-business-may-fade-soon/)
- 39 van der Zwan, P., Thurik, R., Verheul, I. and Hessels, J., 2016. Factors influencing the  
40 entrepreneurial engagement of opportunity and necessity entrepreneurs. *Eurasian*  
41 *Business Review*, 6(3), pp.273-295.
- 42 Wang, Y. and Poutziouris, P. (2010), "Entrepreneurial risk-taking: empirical evidence from  
43 UK family firms", *International Journal of Entrepreneurial Behavior & Research*, 16  
44 (5), pp. 370-388. <https://doi.org/10.1108/13552551011071841>
- 45 Werthes, D., Mauer, R. and Brettel, M. (2018), "Cultural and creative entrepreneurs:  
46 understanding the role of entrepreneurial identity", *International Journal of*  
47 *Entrepreneurial Behavior & Research*, 24(1), pp.290-314,
- 48 Winters, P., Davis, B. and Leonardo C. (2002), Assets, activities and income generation in  
49 rural Mexico: factoring in the social and public capital", *Agricultural Economics*, 27,  
50 pp. 139-156.
- 51 World Bank (2008), *Agriculture for Development*, World Development Report.  
52 Washington, DC: World Bank.
- 53  
54  
55  
56  
57  
58  
59  
60



1  
2  
3 World Bank (2011), Nigeria's Infrastructure: A Continental Perspective. *Policy Research*  
4 *Working Papers*. International Bank for Reconstruction and Development.  
5 <https://elibrary.worldbank.org/doi/abs/10.1596/1813-9450-5686>

6 World Bank Enterprise Surveys (2014), Nigerian Country Profile.  
7 <http://www.enterprisesurveys.org/>

8 Yunez-Naude, A., and Taylor, E. (2001), "The determinants of non-farm activities and  
9 incomes of rural households in Mexico, with emphasis on education", *World*  
10 *Development*, 29(3), pp. 561-572.  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60

Table 1. Types of Farming, Non-farm and Artisanal Business Activities.

| Types of Activities  | Frequency        | Percentage           |
|--|------------------|----------------------|
| Farming only (crops and livestock)                                     | 58               | 18.95                |
| <i>(Formal activities, Informal activities)</i>                        | <i>(16, 42)</i>  | <i>(5.23, 13.72)</i> |
| <i>(Ownership by Gender: Male, Female)</i>                             | <i>(46, 12)</i>  | <i>(15.03, 3.92)</i> |
| Farming with non-farm business activities                              | 248              | 81.05                |
| <i>(Non-farm Activities: Formal, Informal)</i>                         | <i>(39, 209)</i> | <i>(12.75, 68.3)</i> |
| <i>(Non-farm Ownership by Gender: Male, Female)</i>                    | <i>(92, 157)</i> | <i>(30.06, 51.3)</i> |
| <i>Manufacturing of Local Crafts and equipment*</i>                    | <i>(40)</i>      | <i>(13.07)</i>       |
| <i>Textile and weaving*</i>  | <i>(22)</i>      | <i>(7.18)</i>        |
| <i>Merchandise or trading*</i>   | <i>(45)</i>      | <i>(14.71)</i>       |
| <i>Technical services (mechanical, electricians, plumbers, etc.) *</i> | <i>(18)</i>      | <i>(5.88)</i>        |
| <i>Off-farm and migratory labour (non-skilled)</i>                     | <i>(52)</i>      | <i>(16.99)</i>       |
| <i>Food and drinks (processing &amp; retail) *</i>                     | <i>(18)</i>      | <i>(5.88)</i>        |
| <i>Fish Ponds*</i>   | <i>(6)</i>       | <i>(1.96)</i>        |
| <i>Butchers and meat processing*</i>                                   | <i>(9)</i>       | <i>(2.94)</i>        |
| <i>Quarry and Mining*</i>  | <i>(8)</i>       | <i>(2.61)</i>        |
| <i>Transportation (Okada, Keke and car taxi)</i>                       | <i>(7)</i>       | <i>(2.29)</i>        |
| <i>Wage employment</i>   | <i>(10)</i>      | <i>(3.27)</i>        |
| <i>Others</i>  | <i>(13)</i>      | <i>(4.25)</i>        |
| Total (excluding figures in brackets)                                  | 306              | 100                  |
| * Represent Artisanal activities                                       |                  |                      |

Source: Computed from Survey data

Table 1. Socio-demographic Characteristics of Respondents.

| Variables                           | Frequency    | Percentage |
|-------------------------------------|--------------|------------|
| Age Group of Business owners        |              |            |
| 20 – 35 years                       | 38           | 12.4       |
| 36 – 45 years                       | 215          | 70.3       |
| 46 – 65 years                       | 53           | 17.3       |
| Mean (Standard Dev)                 | 52.6         | (8.97)     |
| Gender of Business Owners           |              |            |
| Male                                | 138          | 45.1       |
| Female                              | 168          | 54.9       |
| Education Level/Years of Schooling  |              |            |
| 0 – 5 years                         | 60           | 19.6       |
| 6 – 10 years                        | 150          | 49.0       |
| 11 – 14 years                       | 58           | 19.0       |
| 15 – 18 years                       | 38           | 12.4       |
| Mean (Standard Dev.)                | 6.89         | (4.497)    |
| Number of Employees                 |              |            |
| Number of Businesses with employees | 167          | 54.57      |
| Mean workers                        | 1.6          | (.614)     |
| Marital Status of business owners   |              |            |
| Married                             | 282          | 92.2       |
| Family Size of business owners      |              |            |
| 1 – 5                               | 20           | 6.5        |
| 6 – 10                              | 228          | 74.5       |
| 11 – 15                             | 49           | 16.0       |
| 16 – 20                             | 9            | 2.9        |
| Mean (Standard Dev.)                | Approx. 10.3 | (3.865)    |

Source: Computed from survey data.

Table 3. Types of Training received by business owners.

| Training                   | Frequency | Percentage |
|----------------------------|-----------|------------|
| Trading apprenticeship     | 20        | 6.5        |
| Tailoring                  | 14        | 4.6        |
| Catering                   | 2         | 0.7        |
| Hair dressing and weaving  | 4         | 1.3        |
| Manufacturing Work         | 14        | 4.6        |
| Technical Work             | 94        | 30.7       |
| Food Processing            | 1         | 0.3        |
| Electrical/Mechanical Work | 14        | 4.6        |
| Building Construction Work | 26        | 8.5        |
| Other (self-trained)       | 117       | 38.23      |
| Total                      | 306       | 100.0      |

Source: Computed from Survey data.

Table 4. Socio-economic, Political and Environmental barriers.

| Factors   | Percentage distribution by degree of obstacle |      |          |      |             |
|---|---|------|----------|------|-------------|
|   | Minor   | Low  | Moderate | Big  | Major       |
| Inadequate or lack of access to electricity supply        | 2.8   | 6.0  | 6.6      | 8.5  | <b>76.1</b> |
| Inadequate or lack of supply of clean water               | 0.0   | 0.0  | 22.4     | 28.1 | 49.5        |
| Lack of roads or poor quality of road network             | 4.6   | 10.0 | 18.2     | 8.6  | 58.6        |
| Lack of access to finance and credit                      | 4.1   | 2.6  | 6.3      | 7.0  | <b>80.0</b> |
| Inadequate or high cost of transportation                 | 3.9   | 3.0  | 18.5     | 20.0 | 54.6        |
| Business license and registration costs                   | 12.3  | 10.2 | 25.6     | 13.1 | 38.8        |
| Low demand for goods of local produced goods              | 5.0   | 11.2 | 15.7     | 16.4 | 51.7        |
| Lack of information                                       | 2.3   | 6.8  | 8.4      | 12.3 | <b>70.2</b> |
| Lack of access to postal services                         | 16.0  | 14.8 | 20.0     | 14.5 | 34.7        |
| Lack of access to education and training                  | 0.0   | 2.0  | 17.2     | 20.4 | 60.4        |
| Corruption in the public services and politics            | 1.6   | 4.2  | 7.0      | 13.7 | <b>74.5</b> |
| Imports of foreign cheap goods                            | 5.2   | 12.0 | 13.8     | 17.0 | 52.0        |
| Crime and social unrest                                   | 0.0   | 0.0  | 28.5     | 15.7 | 55.8        |
| Urbanization and rural-urban labour migration             | 10.0  | 8.6  | 21.3     | 9.9  | 50.2        |
| Tradition and cultural barriers (including gender issues) | 2.4   | 3.1  | 16.0     | 11.5 | <b>67.0</b> |

Source: Computed from Survey data



Table 5. Definition, Measurement and Summary Statistics of Variables.

| Variables                    | Definition   | Measurement      | Mean       | Standard Dev |
|------------------------------|--|------------------|------------|--------------|
| <b>Dependent Variable</b>    |  |                  |            |              |
| Agricultural Enterprise      | Income of respondents who chose Agricultural enterprise only | Naira (₦)        | 116,000.00 | 80,107.74    |
| Artisanal Enterprise         | Income of respondents who chose Artisanal enterprise         | Naira (₦)        | 94,400.00  | 79,060.18    |
| Wage Employment              | Income of respondents who engage in Wage employment          | Naira (₦)        | 95,300.00  | 34,305.02    |
| <b>Independent Variables</b> |  |                  |            |              |
| Gender                       | Male=1, Female=0   | Male=1, Female=0 | 0.917      | 0.277        |
| Age                          | Years  | Years            | 52.55      | 8.97         |
| Years in School              | Years spent in formal schooling                              | Years            | 6.89       | 4.497        |
| Farm Size                    | Area of land cultivated (Ha)                                 | Hectares         | 2.446      | 0.757        |
| Family size                  | Number of persons living in the household                    | Number (count)   | 10.35      | 3.865        |
| Access to Credit             | If owner have accessed formal credit                         | Yes=1, No=0      | 0.417      | 0.494        |
| Member of Social Group       | Membership of cooperative or social club                     | Yes=1, No=0      | 0.900      | 0.300        |
| Access to Road               | If community have access to good roads                       | Yes=1, No=0      | 0.475      | 0.499        |
| Access to Electricity        | If community have access to electricity                      | Yes=1, No=0      | 0.383      | 0.487        |

Table 6. Determinants of Occupational Choice by Business owners – A Multinomial Logit

| Variable                   | Artisanal Enterprise |           |         | Wage Employment |           |         | Marginal Effects |
|----------------------------|----------------------|-----------|---------|-----------------|-----------|---------|------------------|
|                            | Co-efficient         | Std Error | z- stat | Co-efficient    | Std Error | z- stat |                  |
| Constant                   | 6.2079***            | 1.4311    | 4.34    | 12.0121***      | 2.3897    | 5.03    |                  |
| Age of owners              | -0.1169***           | 0.0276    | -4.23   | -0.2738***      | 0.0534    | -5.13   | 0.0255***        |
| Sex of owners              | -1.9173**            | 0.7629    | -2.51   | -2.9583***      | 0.9006    | -3.28   | 0.4744***        |
| Marital Status             | 0.3574               | 0.5755    | 0.62    | -2.7252***      | 0.8267    | -3.30   | 0.1418***        |
| Year of Schooling          | 0.0758               | 0.0535    | 1.42    | 0.3518***       | 0.0907    | 3.88    | -0.0199**        |
| Technical Education        | 1.8473***            | 0.3076    | 6.01    | -2.0806***      | 0.6099    | -3.41   | -0.2694***       |
| Family size                | -0.1344**            | 0.0603    | -2.23   | 0.1478          | 0.0969    | 1.52    | 0.0200***        |
| Farm size                  | -0.7401**            | 0.3252    | -2.28   | -0.0586         | 0.4663    | -0.14   | 0.1278**         |
| Access to credit           | 1.0272***            | 0.2986    | 3.44    | -0.0334         | 0.5376    | -0.06   | -0.1823***       |
| Membership of Social Group | 1.5080***            | 0.4527    | 3.33    | 1.5684**        | 0.7264    | 2.16    | -0.2058***       |
| Access to Road             | 0.0274               | 0.2689    | 0.10    | -0.3990         | 0.4300    | -0.93   | 0.0032           |
| Access to Electricity      | 0.3700               | 0.3073    | 1.20    | 1.6831***       | 0.4698    | 3.58    | -0.1059*         |
| Log Likelihood             | -259.642             |           |         |                 |           |         |                  |
| LR $\chi^2$                | 366.04               |           |         |                 |           |         |                  |
| Pseudo R <sup>2</sup>      | 0.414                |           |         |                 |           |         |                  |

Source: Computed from Survey data

Notes: 1. \*\*\* = significant at 1 percent level ( $p < 0.01$ ); \*\* = significant at 5 per cent level ( $p < 0.05$ ); and \* = significant at 10 per cent level ( $p < 0.10$ ). The Base Category was the Agricultural Enterprise.

Table 7. Determinants of Occupational Choices and Intensity of Participation: A Multivariate Tobit Analysis

| Variable                          | Agricultural Enterprise |           |         | Artisanal Enterprise |           |         | Wage Employment |           |         |
|-----------------------------------|-------------------------|-----------|---------|----------------------|-----------|---------|-----------------|-----------|---------|
|                                   | Co-efficient            | Std Error | z- stat | Coefficient          | Std Error | z- stat | Coefficient     | Std Error | z- stat |
| Constant                          | -15.7609***             | 2.1867    | -7.21   | 6.4038***            | 1.9327    | 3.31    | -6.9357*        | 3.7417    | -1.85   |
| Age of business owners            | 0.1304***               | 0.0464    | 2.81    | -0.1503***           | 0.041     | -3.66   | -0.2935***      | 0.0862    | -3.40   |
| Gender of business owners         | 2.3712**                | 1.0446    | 2.27    | 0.7991               | 0.9113    | 0.88    | -0.7841         | 1.6327    | -0.48   |
| Marital Status of business owners | 3.9377***               | 1.0702    | 3.68    | 0.2377               | 0.9329    | 0.25    | -1.9595         | 1.8424    | -1.06   |
| Year of Schooling                 | 0.6551***               | 0.0616    | 10.62   | 1.3383***            | 0.0546    | 24.51   | 1.7469***       | 0.1383    | 12.63   |
| Technical Education               | 1.4436**                | 0.5695    | 2.53    | 1.5780***            | 0.4989    | 3.16    | -0.1047**       | 0.9135    | -0.11   |
| Household size                    | 0.5424***               | 0.1027    | 5.28    | 0.1884**             | 0.0902    | 2.09    | 0.3383          | 0.1603    | 2.11    |
| Farm size                         | 1.7683***               | 0.4530    | 3.90    | -1.6368***           | 0.4035    | -4.06   | 0.6682          | 0.7373    | 0.91    |
| Access to credit                  | 0.1708                  | 0.5565    | 0.31    | -0.0850              | 0.4911    | -0.17   | -0.3855         | 0.9608    | -0.40   |
| Membership of Social Group        | -1.0291                 | 0.9105    | -1.13   | 1.6176**             | 0.8084    | 2.00    | 0.8152          | 1.4863    | 0.55    |
| Access to Road                    | -0.4033                 | 0.5113    | -0.79   | -0.3717              | 0.4506    | -0.82   | 0.5221          | 0.8472    | 0.62    |
| Access to Electricity             | 1.6868***               | 0.5561    | 3.03    | 1.6246***            | 0.4888    | 3.32    | 2.2956***       | 0.8649    | 2.65    |

Note: Log likelihood -12,967.96, Wald chi2 = 1463.71, Prob chi2 = 0.000

Source: Computed from Survey data.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59  
60



Manuscript ID: IJEER-02-2018-0102

Manuscript Title: "Determinants of Livelihood Choices and Artisanal Entrepreneurship in Nigeria"

Journal Title: International Journal of Entrepreneurial Behaviour & Research

Responses to Referees' Comments to Authors:

| Reviewer #1 (Recommendation: Minor Revision)   | Authors Responses  |
|--|--|
| <p><b>1. Originality:</b> This paper is very original and contains new insights and information relating to artisanal activity in a developing country which we know very little about. It more than justifies publication</p>   | <p>Thank you. This is very much appreciated.</p>   |
| <p><b>2. Relationship to Literature:</b> The paper covers a wide range of literature covering key elements relevant to the study including socio-economic development, regions and clusters, family businesses, and barriers to growth. I would point out that the necessity - opportunity classification is not new and existed in labour economics decades before GEM (see for example, Mark Taylor, 1996, Earnings, Independence, or Unemployment: Why become self-employed?). There are also some interesting papers on barriers for entrepreneurship in deprived areas and rural locations (see for example, Neil Lee and Marc Cowling, 2015, Environment and Planning C).</p>                        | <p>Thanks for the recommendations.</p> <p>We have explored the suggested articles – i.e. Taylor, 1996 and Lyee and Cowling, 2015, and have added both citations (p.5 and p.15). We have also added new articles. Thanks for these suggestions.</p>   |
| <p><b>3. Methodology:</b> The research combines a quantitative survey and qualitative work. This is a strength of the paper as it has depth, breadth, and quantitative rigor. The author(s) have designed their research well and the analysis is very well constructed and executed. I would really like to see some (simple) additional analysis to support their conclusions relating to 3 additional logit (probit) models using three binary barriers (lack of access to credit, lack of access to information, and cultural issues) as a function of personal characteristics. This would strengthen their ability to draw policy implications and suggest where support might best be targeted.</p> | <p>This query has now been addressed and explained.</p> <p>Lack of access to credit was captured by the variable "Credit Access" denoted as Yes = 1 and No = 0.</p> <p>Access to information was assessed using the variable "Membership of Social Groups" as shown on p.8 &amp; 9.</p> <p>Cultural issues were not properly graded as a result of the Open-ended questions presented to them.</p> |
| <p><b>4. Results:</b> The results are well presented and the discussion clearly links to the results tables. Analysis is good and where appropriate alternative model specifications are provided. The analysis clearly links to the issues raised in the introduction and literature review. Conclusions are representative of the key findings.</p>  | <p>Thank You. This is very much appreciated.</p>   |
| <p><b>5. Implications for research, practice and/or society:</b> The paper has very important implications for research - giving us strong insights into a large developing country, and society - it gives us a strong evidence base and provides clear policy guidelines should the government wish to strengthen the socio-economic position of individuals and the regions they live in. This work is easily replicable in other developing countries which I feel would add huge value.</p>   | <p>Thank You. No further action required.</p>  |
| <p><b>6. Quality of Communication:</b> The paper very clearly expresses its case and is generally well written and structured. It is very readable and interesting.</p>  | <p>Thank You. No further action required.</p>  |

| <b>Reviewer #2 (Recommendation: Minor Revision)</b>  | <b>Authors Responses</b>  |
|--|---|
| <b>Comments:</b> I congratulate the authors of the study for examining such issue. This paper addresses an interesting topic and is well-written, but it also includes some shortcomings, which suggests further improvement.  | Thank you, Reviewer #2. You seem happy with most aspects of the manuscript except the following which have all now been addressed.  |
| 1. On page 1 (Practical Implication), "it is the former that makes the most contributions to livelihood.." This sentence is not clear.   | This sentence has now been revised in the light of your comment. The sentence now reads, "...it is the former (i.e. artisans as trade practitioners)..." Please see p. 2, lines 2-3.  |
| 2. "the decision of rural business owners using the dichotomous options of 1, 2 and 3 for the agricultural, artisanal and wage employment choices owing to the available data." (P. 7, line 53).Options of 1, 2 and 3 are not dichotomous because they are three. Dichotomous variables are nominal variables which have only two categories or levels. We instead call it categorical variables.                            | The word "dichotomous" has now been expunged and replaced with "categorical". Please see p.7 where it now appears. Thank you.   |
| 3. Who were the people who took part in the focus group? (Seven participants??) Please describe their characteristics and the process in which you use them to validate your questionnaires and results etc.?<br>4. Where are the questionnaires? Please add them as Appendices<br>5. Where are the hypotheses based on the research background? Relying only on data results might be very risky in generating the results! | The participants have now been included in the manuscript. It now clearly states, "The survey was followed up with a focus group of seven experienced artisan business owners (4 men and 3 women) to validate some of the responses..." Please see the last section on p. 12.<br><br>Regarding placing the questionnaires in the appendix, perhaps it may be better to sent you and the Editor (if s/he requests), rather than appending to the manuscript.<br><br>In terms of hypothesis, we followed Tregear, (2005) by suggesting that our respondents were not 'lifestyle seekers' but operated with 'commercial ambitions' and also under 'adverse market conditions'. Please see the last paragraph on p. 4.<br>The study hypotheses and research background has been developed on p. 8 & 9 as H1 & H2. |
| 6. Please check typo errors, e.g., p. 10 line 22: Participants suggest that policies and programmes should that targets young people<br>7. Authors raised an exciting issue of necessity vs. opportunity entrepreneurs during the development of the literature review (p.6 & 4). However, this is missing in the results and discussion parts.  | Regarding point #6, the error has been amended (see last paragraph on p. 12) to now read, "Participants suggested that policies and programmes should be specifically targeted at young people..."<br>Necessity vs opportunity was captured during the focus group as shown on p.10<br>Point #7 is directly linked to the issue of not being lifestyle seekers, but commercially driven under adverse market conditions. Please see our response to point #5 above.   |
| 8. Please shift the limitation and future research (currently in the Conclusion part) to the Discussion part.  | Thank you for the suggestion. These have now been moved to the advised section.   |

| <b>Reviewer #3 (Recommendation: Major Revision)</b>  | <b>Authors Responses</b>   |
|--|--|
| <p><b>Comments:</b> Thank you for the opportunity to read your study.</p> <ul style="list-style-type: none"> <li>- I suggest that the author uses more recent references (for the last two years, for example), and that he references more articles IJEER - International Journal of Entrepreneurial Behavior &amp; Research.</li> </ul>  | <p>Thank you for the suggestions. We have now sources, read, articulated, and incorporated new and relevant papers into the manuscript, including relevant IJEER articles.</p>   |
| <ul style="list-style-type: none"> <li>- Not all references cited are in the bibliography, and not all bibliography is cited in the document.</li> </ul>   | <p>We have sifted through this omission and rectified the situation accordingly. Thank you.</p>  |
| <ul style="list-style-type: none"> <li>- He suggested that the author from the literature formulates some hypotheses of investigation. It is not well understood what one intends to test or contribute.</li> <li>- He suggested that once the research hypotheses were formulated, the author proposed a conceptual model and tested it based on the results he already has.</li> <li>- I suggest clarifying and justifying the scales used, it is not very well understood.</li> </ul>   | <p>The hypotheses have been developed see, p.8 as H1 and H2. Cultural issues were not properly graded as a result of the Open-Ended questions presented to them. Modelling is not feasible due to the components of the data gathered.</p> <p>The scales used is 1 –10% level as shown on the notes under Table 6. But this has been inserted in page 10. The questionnaire was mostly open-ended questions and not based on scales.</p> |
| <ul style="list-style-type: none"> <li>- Gaps of the study unclear, better ground this question, as well as the contributions of it.</li> <li>- Where it refers (see Steel, 1979, for example) I would remove the expression "see".</li> <li>- Footnote, I would not use it. I would try to summarize and include in the text if possible.</li> <li>- You need to see the formatting of the bibliography better. Please see the formatting rules of the journal. I suggest that you review them one by one in order to standardize the standards.</li> </ul> | <p>The gaps have now been highlighted and likewise the contribution. Please see the implications section in the abstract, as well as the last section of the manuscript on p. 14.</p> <p>See Steel has been reframed.<br/>The footnote has been removed.</p> <p>Finally, the manuscript has been reformatted following IJEER house rules as suggested. Thank you.</p>  |
| <ul style="list-style-type: none"> <li>- Below table 7 appear "loose" data and it is not clear where they belong, I suggest you review this question. If necessary build another table.</li> <li>- Define acronyms the first time they appear.</li> </ul>  | <p>The "loose data" below Table 7 have now been deleted. The authors have brainstormed over the value added of these supplementary data and have deemed it unnecessary to warrant a new Table.</p> <p>Table 1 has been amended to present original % scores.</p> <p>Furthermore, all acronyms have been explained in full at first mention. Thank you.</p>   |