EXPLORING LATENT DETERMINANTS OF ENTERPRISE OCCURRENCES IN PLANNED RESIDENTIAL AREAS

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ABSTRACT

Home-based enterprises, an informal sector engagement in emerging economies are usually identified with informal neighbourhoods characterised by low households' income. The occurrence of HBEs in formal middle-income neighbourhoods requires investigation. The exploration of the extent to which latent factors led to this development inspired a study of planned residential areas of Lokoja, Kogi state, Nigeria. Cluster sampling of ten neighbourhoods using specific criteria was adopted to select the study areas and 353 questionnaires structured on

Likert's scale were administered to the entire population of HBE operators in the study areas. Confirmatory factor analysis (CFA) through structural equation modelling of "aspiration vectors" indicates satisfactory goodness of fit among accepted determinants of the model. This is an indication that other than income generation motives emphasised in previous studies, other latent factors are also significant determinants of HBE occurrences. Mixed-use strategies has been suggested as a way of integrating living and economic activities.

Key words: Exploring, latent, occurence, determinants, planned residential areas.

1. INTRODUCTION

Home-based enterprise (HBE) is an economic activity which occurs in or very close to the home rather than in commercial or industrial locations.

"Home" is defined as a dwelling unit and/or structure attached to a dwelling unit and/or an open area adjacent to a dwelling unit (Ezeadichie, 2012; Strassmann, 1987). HBEs have gradually and continuously become an integral activities competing for space in both formal and informal residential areas of cities in many emerging economies (Baba, Yusoff, & Elegba, 2015). The paradigm shift of home function into encompassing income generating activities represents a paradox (Osarenkhoe, 2009). This dynamism creates dualistic ideology among urban land use professionals; those for and against their integration in urban planning process. The endorsement by the United Nations Centre for Human

Settlement (UNCHS, 1990) in the "Global Strategy for Shelter to the Year 2000" and "The Habitat Agenda" (UNCHS, 1997) cited in (Kellett & Tipple, 2000) gave credence to housing as an economically productive sector. The recent draft of the Nigerian National Housing Policy (2012) also follow the Habitat agenda to recognise the need for integration of micro enterprises in public housing schemes to boost employment and income generation (Adeokun & Ibem, 2014). Latent factors propelling HBE start-ups in neighbourhoods have been linked to cost saving and convenience factors (Mason, Carter, & Tagg, 2010; Muscat, 2007) as well as achieving work-life balance. However, patronage encouraged by availability, affordability and accessibility to customers are some of the benefits that spur the growth of home businesses (Kamete, 2000). The extent to which these factors induces enterprise occurrence particularly in formal middle-income housing remain largely unknown and this form the focus of this study. The underlying principle of the Home-based business versus non Home-based business (HBB vs non-HBB) choice model developed by Pratt (Pratt, 2008) explains the home location choice for enterprises through a descriptive interaction of perceived opportunities with market offerings. The model which built on Lee and Venkataraman model (Lee & Venkataraman, 2006) analyses relationship between the two vectors in determining location choice of enterprises; aspiration and perceived market offering vectors. It provides that the "aspiration vector" (AV) is a combination of economic, social, and psychological benefits desires of an individual. It implies that the AV vector interacts with the "perceived market offering vector" (P-MOV). P-MOV comprises current market opportunities for the business by combining the economic, social, and psychological factors prevailing at a given point in time. It follows that "personcentric" (personal focus) businesses are bound to be home-based while business focus businesses are not. An important component of a planned neighbourhood is an organised space for neighbourhood centres that will accommodate facilities such as, small convenient shops, for goods and services within the residential neighbourhood. Foremost New York town planner, Clarence Arthur Perry's (1872-1944) famous neighbourhood model supports centres that serves as a focal point for a neighbourhood

(Shambharkar, 2008). Such centres provide a limited range of services within approximately five minutes walking distance in service radius. Such facilities are not provided in the planned neighbourhoods of Lokoja, Kogi state, Nigeria. Against the widely held opinion that HBEs are features of mainly informal settlements accommodating low income households (Gough, Tipple, & Napier, 2003; Jelili & Adedibu, 2006; Onyebueke, 2001), this paper measures the extent to which some specific latent factors bought about prevalence of informal HBEs in planned middle-income neighbourhoods. This is a deviation from previous studies emphasising income generation motive as the only reason for HBE occurrences thereby viewing them as

"survivalist" activities. Focusing on the HBB vs non-HBB choice model, three factors of *cost, convenience* and *patronage* have been identified for investigation. The idea is to determine the extent to which indicators of these three factors encourage enterprise start-ups in the planned residential areas.

2. MATERIALS AND METHODS

Neighbourhoods were selected through cluster sampling using convenient selection criteria. The criteria firstly involved selecting planned neighbourhoods developed from 1991 to 2012 whose number is from 50 and above. This selection criterion is because 1991 was when Lokoja acquired a state capital status and massive housing development began. 2012 marked the end of an elected government administration providing a time frame for study. New developments from 2012 to present are either not ready for habitation or just recently occupied. Secondly, the reason for pegging selected neighbourhoods to 50 housing units and above is that preliminary reconnaissance survey of all the neighbourhoods in the sampling unit revealed that residential areas with less than 50 housing units are not only high income housing but showed no evidence of significant HBE occurrences. Ten housing development comprising of 1607 units met the set criteria. Data was generated by administering 353 questionnaires developed on Likert scale to operators of HBEs. The questions elicited reasons for HBE choices.

SPSS (Version 22 for windows) was also useful in the exploratory factor analysis (EFA) that identifies the structure of the measurement model and combines different items to form variables. A Confirmatory Factor Analysis (CFA) using Structural Equation Modelling (SEM) in AMOS version 22.0 software further validates the result from questionnaire data.

3. RESULTS AND DISCUSSION

3.1 Demography of Respondents

The result of the descriptive statistics revealed a greater percentage of female operators of enterprises and are mainly in the age bracket of between 21-35 and 36-50 years of age. There is quite a high literacy level among operators with 58% attaining tertiary education and a high percentage with secondary school education. This is perhaps due to the fact that the study area accommodates relatively good number of middle income households. This contrast with previous studies whose case studies are in squalid low income neighbourhoods. Household sizes are moderate, mostly between 4-6 persons per household residing in mainly two and three bedroom apartments. Housing types are made up of mainly single flats and blocks of flats occupied on an owner-occupier basis by majority of the residents. Employment status of respondents indicate that 54% depend solely on HBE and income from spouses for sustenance while the rest combined HBE with private and government jobs. Most of the enterprises are sole proprietorship. Only a few are family owned without any form of official business registration. Average monthly income from enterprise is mostly within the range of between 7500 and 30,000 Naira (38-151 USD) while average monthly income from other sources are in the range of 7500 and 100,000 Naira (38-502USD). Other main income sources are mainly from salaries derived from government, private engagements and spouse for households' upkeep. The categories of enterprises are mainly in the retail sector, followed by small-scale service production and manufacturing. These are largely located within dwelling structures and others on open spaces in and around the homes.

3.2 Reliability of Instrument

A total of 10 validated items were generated from literature on HBEs (Kamete, 2000; Mason et al., 2010) and were modified to measure perception on cost, convenience and patronage. The data was examined for internal

consistency on the instrument administered. All items produced a Cronbach Alpha value of above 0.60 above the recommended minimum threshold (Hair, Black, Babin, & Anderson, 2013). The response were measured through a 5-point Likert scale which allows for freedom of opinion and relative ease of data analysis with the assumption that strength/intensity of experience is linear (Beglar & Nemoto, 2014; Enegbuma, Aliagha, & Ali, 2015; Hair et al., 2013). Table 1 shows the reliability of the instrument.

Table 1. Test of instrument reliability

Items	Labels	Inter-Item Correlation	Cronbach's Alpha
COS1	To reduce cost of renting outlet	0.66	0.79
COS2	Avoid need for commuting cost	0.67	
COS3	Saving cost by using home assets	0.57	
CON1	Convenient with home chores	0.70	0.87
CON2	Enterprise type does not require outlet	0.73	
CON3	To accommodate family needs	0.75	
PAT1	Started as hobby and grow	0.75	0.88
PAT2	Home location is prime for HBE	0.69	
PAT3	High demand for product/service	0.72	
PAT4	Meeting customers need easily	0.75	

3.3 Exploratory Factor Analysis

The sample size determine the acceptance level of factor loading, indicating that a factor loading of 0.4 would be significant at 95% confidence interval. This is within the threshold for a sample of 353 used for this study (Hair, Black, Babin, Anderson, & Tatham, 2006). Following previous research techniques from literature, the factor extraction was conducted for all items in the research instrument with the requirement in preceding order; principal component extraction, varimax rotation, threshold for factor extraction of Eigen value >1. Usually, items with cross-loadings (loadings on two or more factors) of > 0.4 and items with a factor loading of less than 0.4 on any factor are eliminated. However the exploratory factors loading for all items in this study are above the value of 0.4. as shown in Table 2.

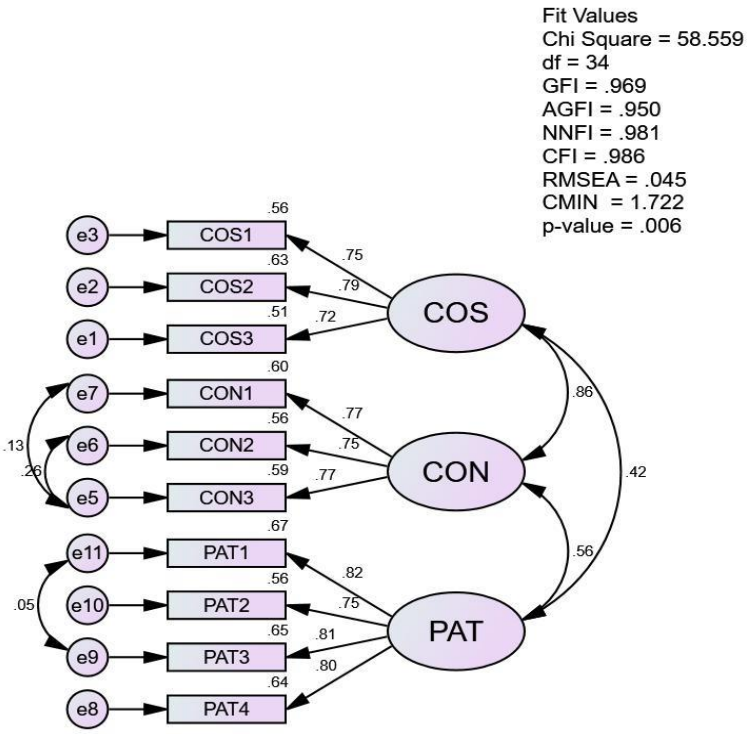
Table 2: Exploratory factor analysis

Items	Rotated Component Matrix[a]		
	Components		
	1	2	3
COS1	.528		
COS2	.521		
COS3	.536		
CON1		.736	
CON2		.721	
CON3		.745	
PAT1			.834
PAT2			.805
PAT3			.821
PAT4			.806

3.4 Measurement Model

The measurement model shows the correlation strength among the constructs for this study. The minimum thresholds of indices used in measuring measurement model fit are stipulated by previous researchers (Awang, Afthanorhan, & Asri, 2015; Enegbuma et al., 2015; Hair et al., 2013) which are $p < 0.05$, $\chi 2/df \leq 2\text{-}5$, $RMR < 0.06$, $CFI \geq 0.90$, $GFI \geq 0.90$, $AGFI \geq 0.90$ and $RMSEA \leq 0.05\text{-}0.80$. The statistics shown in Figure 1. revealed a RMSEA value of 0.5, GFI, 0.97 and AGFI, 0.95. The CFI result at 0.99 is close to a perfect fit and CMIN of 1.72. The fit statistics presented in Figure 1. are adequate within the acceptable thresholds and factor loadings to establish convergence validity of the congeneric measurement model for HBE choice.

Figure 1. Measurement model for HBE choice



3.5 Discriminant Validity

Discriminant validity assesses the difference in the combined constructs for HBE. Table 3 shows that there was sufficient discriminant validity among the constructs as the results of Composite Reliability (CR) which signifies the internal consistency of a latent construct were all above the minimum of 0.6. The Average Variance Extracted (AVE) which signifies the average percentage of variation explained by the measuring items for a latent construct were all above and in line with acceptable value of 0.5.

Table 3. Discriminant Validity of HBE Choice Model

	CR	AVE	CON	COS	PAT
CON	0.808	0.584	**0.864**		
COS	0.798	0.570	0.760	**0.765**	
PAT	0.872	0.630	0.560	0.422	**0.794**

3.6 Structural Equation Model

The results of the structural equation model of HBE choice revealed that the theorised "*personcentric*" factors of cost depicts the highest factor loading of 0.93, followed by convenience and patronage having factor loading of 0.87 and 0.69 respectively. The result is presented in Figure 2 while the resulting path test of significance is shown in Table 4.

The result indicates that the three theorised factors have a significant correlation with the second order construct of HBE choice as shown in the resulting path test of significance in Table 4. Results from the model are found to have met acceptable thresholds on all of the statistical parameters in literature for a model fit. The tested *personcentric* latent factors of HBE occurrences in planned neighbourhoods has been verified by the analysis of results. The main benefit of the home in cost savings for operators (Mason et al., 2010; Muscat, 2007) is further supported with the highest factor loading of 0.93 for cost factor influence on HBE choice. Operators are also driven to start businesses because of the conveniences offered by home spaces for businesses, meeting family needs and combining businesses with home chores (Mason et al., 2010). This achievement of work-life balance considerations is evident in factor loading of 0.87 in the model. Patronage represent the least among factors that induced HBEs in neighbourhoods with factor loading of 0.69. This findings suggests that volume of sales per day is not the overriding interest and determinant for setting up enterprises in the neighbourhoods. The result is consistent with literature assertion that, perceived market offering vector with business focus are not home-based (Pratt, 2008). The prime motive for business start–ups in homes are costs saving and convenience offerings.

Figure 2: Second order confirmatory model for HBE choice

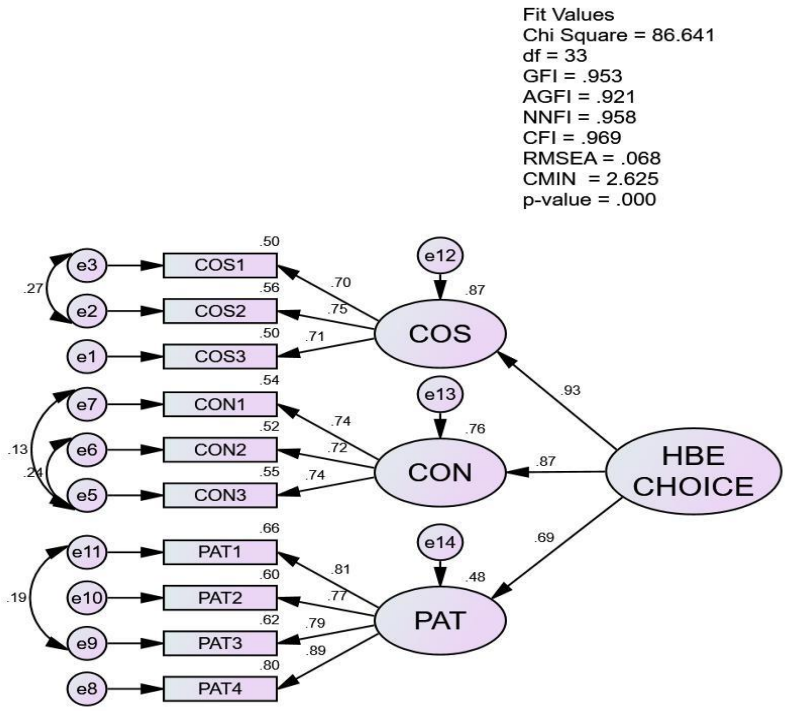


Table 4. Test of significance

Item		Variable	S.E	C.R	p	SMC	Comment
COS	<--	HBE_CHOICE	.931	2.004	.002	0.87	significant
CON	<--	HBE_CHOICE	.872	2.891	.004	0.76	Significant
PAT	<--	HBE_CHOICE	.695	7.789	***	0.48	Significant

4. CONCLUSION

The focus of this study has been to understand the extent to which aspiration vectors determine enterprise occurrences within households and spaces in planned residential areas. The factors responsible for measuring the relationship and extent of predicting HBE locations in the neighbourhoods were identified as personal focus variables namely; cost, convenience and patronage. Theses variables were measured through several indicators. Cost assessed the cost of HBE establishment elsewhere, commuting concerns and cost savings using household assets for business. Convenience assessed the ease of

combining house chores/family needs with enterprise and use of home spaces. Patronage assessed customer volume. Overall, cost savings was found to have the highest impact. However, convenience and patronage were also significant as inducing factors of HBEs in planned neighbourhoods. This study is limited to planned neighbourhoods in a largely unplanned settlement of Lokoja where a good number of HBEs operators have alternative income sources. Similar studies within the same locality in informal neighbourhoods is likely to produce different findings. Policies towards assimilating HBE in the neighbourhood should incorporate efforts that will improve the living conditions of the residents. Mixed-use planning strategy, provision of purpose-built shopping areas in close proximity to homes will prevent any negative externalities that may arise from HBE activities in neighbourhoods. Other non-personal focus factors like access opportunity index of neighbourhoods to commercial activity areas of the city has not been explored in this study. Future research can address that aspect as well as building on the HBE choice model to test the impact of HBE choice on households' well-being. This will emphasise the need for sustainability strategies in neighbourhood planning that will actualise one of the objectives of the draft national housing policy of Nigeria.

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