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January 9, 2011

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Spatial Distribution of Commercial Banks in Ilorin Metropolis, Kwara State, Nigeria

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Abstract

The spatial distribution of banks in any geographic entity determines the level of accessibility to its services by the public. This study examined the pattern of banks distribution in Ilorin metropolis. Field survey was employed in determining the number of available commercial banks and their respective distances between each other. The spatial analysis technique such as the nearest neighbour analysis as used ascertain the degree of clustering, density and the average distance taken to access these services. The study revealed that about 96% of the total number of banks are situated in the Central Business District which exhibited a very a high degree of clustering ($R_n = 0.59$). This eased interbank interactions within the CBD as the average interbank distance is 0.37km and with a little measure of cost to customers who reside outside the CBD. It also discovered that a branch of U.B.A. PLC was the only bank located in interior (traditional/unbanked) of Ilorin metropolis. Based on this, it was recommended that banking services should be extended to the traditional settlement areas where indigenes reside to encourage and improve their banking culture.

Key Words: Spatial, Distribution, Bank Branches. CBD, Customers

Introduction

Banks are the most dominant institution in the financial system of any economy. However, the inability of banks to reach the entire population has reduced the accessibility of its services to all categories of business and this has been a source of worry (Rangel and Lobato, 2010; Rojas, 2006; Ruiz, World Bank 2005; Ruiz, 2004). This development is similar to other developing countries including Nigeria. (Ijaiya, 2010; Kumar et.al, 2005).

In Nigeria, apart from the difficult terrain, the spatial location in urban centers is also noticed which has kept some traditional areas with little or no formal banking facilities. However, banks provide for the transfer of funds from Surplus Spending Units (SSU) to Deficit Spending Units (DSU), this process provides the nation's payment mechanism. Thus, traditional areas may not fully enjoy this process. Soyede & Oyejide (1975) also asserted that banks provide three-fourth of the nation's money supply; transmit the monetary policy for the Central Bank of Nigeria to the economy, furnish a large proportion of credit to the economy, and more importantly effect the allocation of credit among sectors.

The term spatial distribution of banks is used to describe the pattern of distribution of banks in a given location. The precise reasons for this location pattern are only known within the banking firms (Chang, Chandhuri and Jayarantu, 1997). However, Fujita and Krugman (2004); Fujita and Thisse (2002); and O'Sullivan, (2007) observed that it is reasonable to suppose that the spatial behaviour is not coincidental, but rather is due to a number of advantages that firms enjoy when they agglomerate in a location. Such advantage is generally called economies of agglomeration. For instance, the agglomeration for bank branches provide some advantages such as reducing bank customers' costs of finding and obtaining banking services, share services and costs, security and exterior maintenance, lighting, advantage of experience, know-how and decision-making, as well as maximize their access to strategic demand segments like high- income population, government employees and workers in key private sector activities (Rangel and Labato, 2010).

Chang, et al (1997) introduced the term "rational herding" in distribution patterns of bank branches. The term has been used to describe situation in which it is individually rational for agent/firms to mimic the actions of others even though such mimicry can

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potentially lead to aggregate outcome that are sub-optimal. A number of recent theoretical papers have highlighted the possibility of rational herding in various areas of economic activity. These models have been used to explain stylized facts about the clustering of economic activities.

Duranton and Overman (2005) identified three generations of methods for estimating spatial concentration, dispersion or randomness of firms. The first generation includes, paradoxically, non-spatial indicators such as those derived from Gini's Index, which in reality are statistical exercise not tied to territory (Krugman, 1991b). The second generation of indicators introduces some spatial elements and describes the underlying economic concentration but consider space in a discrete manner- organized in spatial administrative units chosen arbitrarily: countries, states, municipalities, etc. This is driven by the way in which official statistical information is made available. (Ellison and Glaeser, 1997; Devereux *et.al*, 2004). While the third generation indicator is derived from most part of *K-function* and is based on *continuous* spaces, spaces not fragmented by artificial or arbitrary political-administrative units. This enables measurement of point concentrations (i.e. banks branches) simultaneously on diverse spatial scales. (Ripley, 1976; Arbia, 2001; Marcon and Puech, 2003; Duranton and Overman, 2006; Arbia, 2007; Rangel and Labato, 2010).

Discussing the locational strategy of banks, Birkin *et.al*, (2002) observed that in general, bank location strategy follow the same localization logic as other private services firms. Banks recognized that the spatial distribution of their markets i.e. their customers; branches and competitors branches are not homogeneous in the territory and therefore there are strategic locations in a city advantageous to their branches. (Chang *et.al*, 1997). Rangel and Labato (2010) identified three factors banks consider in location strategy; these are (i) access to potential customers; (ii) sales of banking services; (iii) overall bank earnings. The first factor is critical because, the other two factors depend on it. Besides, all the factors are associated with the spatial distribution of the overall population and of the employed population. (Beery, 2002; Rangel and Labato, 2010).

Closely related to bank location strategy are the reasons for bank location. Chang *et.al*, (1997) opined that bank branches tend to be spatially clustered in an area where there is a considerable certainty about the profitability of opening a branch in a given area. Besides, the costs of setting up a branch are often substantial, as well as the direct and indirect cost of closing a branch. Thus, these costs presuppose that banks are located in area chosen for their branches. Moreover, banks generally expand their network of

branches at different times this means that in deciding where to locate their branches, banks have an opportunity to observe where other banks branches are located. However this spatial behaviour implies unequal accessibility of banking services within the area, which can worsen the unbanking of the population, micro-enterprise and small business. (Rangel and Labato, 2010). Furthermore, branch location decision could also be a policy issue especially where banks decide to locate in an area where others are spatially clustered.

Kutler (1996) observed that bank location is also based on its proximity to her customers, because customers frequently visit their banks to make deposit and withdraw money. Hence, customers value proximity and banks cannot locate a branch anywhere and expect customers to use Automated Teller Machines (ATMs) etc. over a branch. Besides, ATMs are limited to only withdraw of money, while deposits will require customers visiting their banks. (Chang *et.al*, 1997).

Discussing the empirical evidence of location of bank services Chang *et.al* (1997) opined that the intra metropolitan location of banking services tends towards spatial concentration, although the precise reasons for this locational behaviour are only known within the banking firms (Rangel and Labato, 2010). Besides, studies have also shown that banks cluster to areas of economic activities. Apart from the profitability of the clustering, studies also show that branch openings follow others, though such bandwagon behaviour appears to reduce branch profits. (Chang *et.al*, 1997).

From the foregoing, the importance of bank is unique, therefore, excessive concentration of banks in specific location may have important undesirable implications for both local and international economies and its failure may be far more detrimental to the economy than the failure of other types of businesses. Therefore, the concern of this paper is to discuss the spatial distribution of banks in Ilorin Metropolis of Kwara State, Nigeria.

Study Area, Data Source and Methodology

Study Area

The study area covered Ilorin metropolis which is located on Latitudes 8.40°N – 8.50°N and Longitudes 4.47°E – 4.62°E, the headquarters of Kwara State, Nigeria. Ilorin is located some 300 kilometers from Lagos and 500 kilometres, from Abuja, the Federal capital of Nigeria. The metropolis is situated in the transition zone between the forest and savannah region of Nigeria. The population of the city is estimated at 365,221 according to 2006 Nigerian population census (Adedibu, 1988); Ijaiya, (2000); and NPC, 2009)

Data Source and Methodology

Field survey method was adopted by measuring the distances between one bank to another for the 20 banks covered in this study (see fig 2). Nearest Neighbor Statistics was adopted. Decay (1962) statistical tool was used to establish existence physical relationship as it affects socio-economic relationship within an entity and Kings (1962) table (Figure 1) was used for the interpretation. This study adopts this method to establish whether there is any relationship between the location of banks in Ilorin metropolis and socio-economic factors.

The Decay's Technique:

Nearest Neighbour (RN)

$$R_n = 2d \sqrt{\frac{n}{A}} \dots\dots\dots 1.$$

Where A = the size of the unit area concerned

d = the mean distance between location of banks
 n = the number of points (banks in unit area)

$$d = \frac{\text{Dobs}}{n} \dots\dots\dots 2.$$

Where Dob = Summation of the nearest neighbour distances

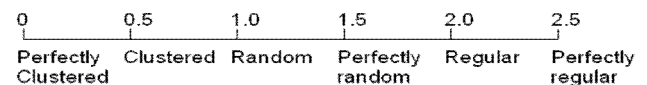


Figure 1: The Kings Table

Data Analysis and Discussion of the Results

Table 1 below shows the result of the analysis, the nearest neighbor statistics (RN) of 0.59 when interpreted using the Kings scale (Figure 1) showed that the banks are clustered more in the Central Business District (CBD) of Ilorin Metropolis.

Table 1: Statistical result

A (Size of unit Area) (m ²)	Dobs (summation of distances) (m)	d (mean distance btw banks) (m)	n (Number of banks)	Rn
31,228,120.5	7315	365.75	20	0.59

The pictorial location of these banks as shown in Figure 2 corroborates the computed Rn value.

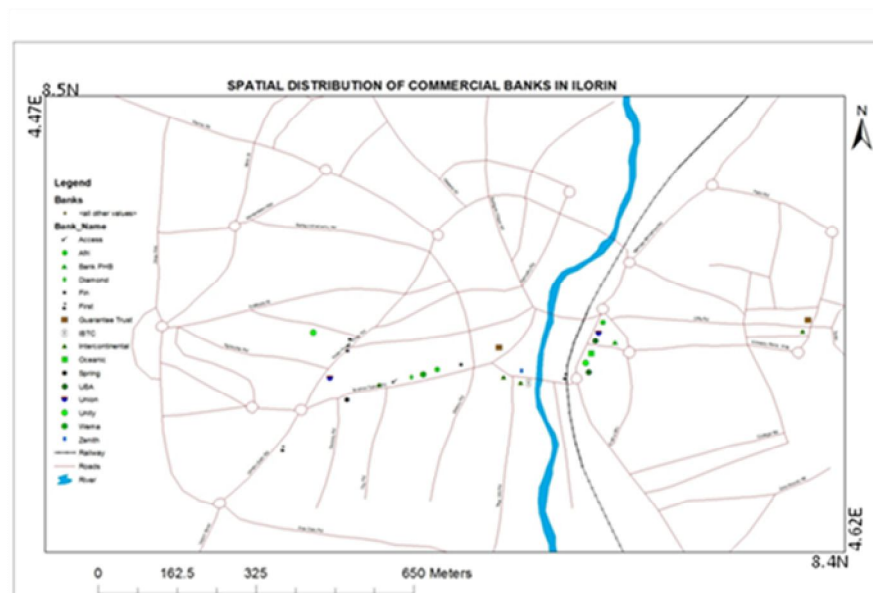


Figure 2: Point of Location of Commercial banks in Ilorin Metropolis

Source: Field Survey, 2011

The implication of the result obtained is that commercial banks in Ilorin metropolis are clustered around areas of Central Business District (CBD). This finding corroborated with the assertion of Ifatimehin et al, (2008) that banks clustered in areas with socio-economic potentials as exhibited in Central Business Districts. Relatively, the interbank transactions in the area done at minimal working distance of 0.37km while customers staying outside the CBD and in the Traditional settlement cover more distances before accessing banking services. However, the cost borne by customers in accessing the banking services will be reduced compared to where banks are randomly distributed.

From our findings, it was discovered that, just a branch of UBA Plc. is located in interior part (traditional area/unbanked) of the Ilorin metropolis. The reasons for this location are not unconnected with the security, social-economic and cultural factors of the people living within the interior or traditional areas of the Ilorin metropolis. These findings conform with similar studies carried out by (Kutler, 1996; Chang et al, 1997; Beery, 2002; and Rangel and Labato, 2010) in Washington, New York, Italy and Mexico respectively.

Conclusion and Recommendations

Based on the findings, it becomes obvious that the distribution of banks within the Ilorin metropolis is lump sided. The import of lump sidedness lies in the present distribution of the majority of the bank branches outside the interior or traditional/unbanked environment of the Ilorin metropolis. This paper therefore recommends that the executives of the banks should go extra-length by locating their branches at the interior traditional areas of Ilorin. Besides, it is also recommended that banks' marketing officers would need to increase their public relation (PR) in terms of wooing the traditional settlers to bank their money.

If these recommendations are implemented, it will go a long way in improving the banking culture, turn over and profitability of banks.

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