Conceptual Review of Geographic Information System (GIS): An Issue in the Quest to Improve the Marketing Activities of Nigeria Business Sectors

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Abstract

Business sectors in Nigeria are facing a difficult time as the current landscape is characterised by ever-increasing competition. Most Nigerian business organisations as well as individuals are ignorance of the potential in Geographic Information System (GIS). In this condition, the search for an appropriate location strategy has the potential to become a differentiating and competitive factor. This paper review the use of Geographic Information System for effective productivity in Nigeria Business sectors. The methodology adopted is basically theoretical and narrative based on analysis models, respectively, from previous studies. A review of related literature and exploration of theoretical framework provided more insight into various ways Geographic Information System could be used to improve the performance of marketing activities in Business Sectors in Nigeria. The study attract the following suggestions and recommendations; combining demographic data from the census with a customer database offers the potential for substantially increasing a company’s capability for marketing analysis, awareness need to be made on the existence and functions of GIS companies in the country, more effort still needs to be invested in GIS development for providing analysis in such mission-critical areas as site selection, target marketing, prospect analysis, territory allocation and media planning.

Key words: GIS, Marketing, Business Sectors, Location, Geospatial, Strategy.

1 Introduction

Two of the World’s leading Geographic Information System (GIS) software manufacturers and the Environmental System Research Institute (ESRI) Mapinfo have captured the Nigerian market, therefore, in today’s Fiercely competitive environment, retailers and distributors of goods and services must use every advantage to acquire and retain customers, plan market expansion and construction, locate profitable sites, stay abreast of changing consumer tastes, and act faster than the competitors. Geography fundamentally influences and connects culture, business society, and lifestyle. Geography answers many business
and marketing queries. It has always been said that the key variables of a successful distribution company are location, location, location, so from this statement it is easy to deduce the importance of a proper location strategy for business sectors (Ghosh and McLaugherty 1982). The opening of a new store or outlet carries an inherent risk because of the high monetary cost associated. Also, a store that is unsuccessful due to a poor choice of location can have a significant negative impact on the image of the company enterprises (Hernandez and Bennison 2000).

Geography is being handed an increasing importance for its key role in the current understanding of the success of a business (Alcaide et al, 2012). Nevertheless, Wood and Reynolds (2012) point out that although the literature places great importance on spatial analysis and geographic information in decision making in the location strategy of companies, this is not the case in practice with some business sectors in Nigeria. In Nigeria business organisations, as well as individuals are ignorance of GIS potentials. Thus, there are possibilities to develop methodologies for determining new commercial locations by integrating such spatial and geographic information with clear, practical application.

Because everything that happens, happens in our street, in our town or city, our country, region, state, province, country and continent. We cannot get away from the location issues and consequently, cannot get away from how the things that happen may or may not affect us. The clue is in the word “geographic” because whether we like it or not, whether we understand and appreciate it or not, geography is virtually important in our everyday lives and understanding the geography around us and its importance, is essential to our everyday lives.

Geographic Information System (GIS) is a piece of software that capture geographic data for the purpose of manipulation, viewing and analysis in whichever context and parameters the user desires or needs. It can be used to analyse spatial data or geographic information for any given and possible purpose. This days it’s a necessity for any service provider with physical “service network” to plot it in a GIS-based software to manage it properly, support it efficiently and to plan for future growth and build-outs. This is because GIS based software tool can track anything that is location based, including an infinite amount of sales characteristics tied to that geographic location.

This paper attempt to create awareness and review the application of GIS on business activities and also present some ways in which GIS can support the activities of the four elements of the marketing mix of a typical business entity in Nigeria. In the pursuit of this and other objectives, the following questions will be addressed, among others: what are the unique features and driving force of GIS? What are the best ways to exploit the new GIS possibilities due to dramatic development in technologies? What measures are needed to enhance the marketing performance of business activities in Nigeria?

The paper is structured into five sections. Following this introduction is section two which is conceptual clarification and literature review/theoretical framework.

Section three discusses the place and importance of GIS in business. Section four dwells on pointing out various GIS companies...
in Nigeria where Business sectors can use for growth and development of their businesses in relation to their mission and vision statements and drive for prominence in industry and market places. While section five conclude the paper and proffers appropriate recommendations.

2 Conceptual Clarification and Literature Review/Theoretical Framework

Nowadays, business organisations all over the world are searching for market gap and building the correct strategy to build up their own consumers and thereby fixing another set of the target group. Geographic Information System is a system by which we can see the geography in a different angle and make interpretations and judgment regarding the issue. In the marketing context, it is a system for capturing and displaying, data which are spatially referenced to the Earth. This is normally considered to involve a spatially referenced computer database and appropriate application software (Anson C.J. 2012).

In complex decision process involving a wide variety and volume of information, along with a substantial subjective component, visualisation methods are extremely useful. Therefore GIS, based on matching digital maps with relational databases, will undoubtedly be essential for the future development of the decision process for locating establishments (Mendes and Themido 2004).

The key to establishing this type of technology within an information framework for the purposes of decision making is integration: the linking together of technology, data and a decision making strategy, what GIS is all about today is the bringing together of spatial analysis techniques and digital spatial data combined with computer technology. But for many, GIS is much more than a computer database and a set of tools: it is also a philosophy for information management. Often GIS can form the core of the information management within an organisation. There are of course other definition too. GIS is sometimes referred to as the tool whilst the user may be the spatial information scientist. In recent times the whole subject area has also been referred to as geographic information management (GIM) or even geomatics.

In fact, the use of GIS by companies and organisations is increasing (Church and Murray, 2009; Chen 2007). In recent years, various association between decision-making models and GIS packages have been made. Harris and Batty (1993) and Birkin et al. (2002) explore the different possibilities that these technologies can offer to solve the problems of planning and locating outlets. Such associations between applications are known as loosely coupled, whereas solutions that include the functionality of decision-making programme within the actual GIS packages are known as strongly coupled. This strategy is based on the acceptance that there is no single software tool or technology that can meet the needs of planners and, therefore, they will have to adapt the current (and future) technologies to satisfy their needs (Harris and Batty 1993).

What Makes Data Spatial?

Spatial data refers to information that is associated with location or place. It may be recorded on a map, held as a records in a database or even be represented as a photograph. Geography is, in fact, the study of
spatial information and that we are surrounded by geography. Therefore, most information is either spatial or has a spatial component.

Examples of Spatial Data:
Socio-economic data is widely available, often from national and local government, and is usually the product of population surveys and censuses. This data is also used by a number of commercial vendors who combine census information with other datasets to produce neighbourhood profiles classifying particular areas for marketing purposes. This ability to recognise particular markets based on geographical datasets is known as Geodemographics and is one of the fastest growth areas within GIS (Anson C.J. 2012).

The visualisation of the data and results in such a complex decision process is one of the reasons for its success (Hernandez 2007; Ozimec et al. 2010). Thus, the use of GIS has facilitated the understanding of geographical information for managers who lack expertise, helping them to make important yet difficult decisions. Furthermore, the latest advances in GIS allow technicians to define, monitor, and automate the calculations and the creation of maps necessary for the resolution of a problem using flow charts (Suarez-Vega et al. 2012) these charts greatly improve the ease of work because the whole process is better understood and it reduces the working time when processing repetitive tasks. This is often the case when evaluating different site locations over and over again.

GIS in Marketing
GIS and marketing is a very important area of making decision in the right time strategy of business decision making. The major points can be confine into the following:
These applications tend towards targeting customers and identifying potential markets for customers.
The extensive datasets generated from the use of loyalty cards can also be used in conjunction with GIS.
Other applications may include; media planning, territory allocation and prospect analysis.

Geomarketing
With the integration of GIS in decision-making processes, the spatial variables takes a relevant role as a descriptive and explanatory variable. In fact, Sleight et al. (2005) state that people who share geographic environment also tend to share behaviours, consumption habits, and related attitudes. The location of customers and the analysis of their environment become especially relevant. The integration of GIS in the study and analysis of the customer, both from a spatial and non-spatial perspective, opens the way for a new field of study called geomarketing (Bavierapuig et al. 2009) Chasco (2003) states that geomarketing is a set of techniques for analyzing a geographical point of view, through mapping tools and spatial statistics tools. This means that it is an integrated system for data processing software, and statistical and graphical methods designed to produce useful information for decision-making, through instruments that combine digital maps, groups and tables.
From a more sociological viewpoint, Alcaide et al (2012) argue that geomarketing is the area of marketing that is aimed at global customer knowledge, and the needs and behaviours of
customers within a given geographical area. All this information helps the company to have a more complete view of its customers and to identify their needs. Finally, Baviera-puig et al (2013) suggest that geomarketing can be defined as the discipline that uses GIS as a tool for analysis and decision-making in marketing, in order to meet the needs and wants of customers in a profitable way for the company. An important development that has increased the potential for using GIS in marketing is the increasing availability of relevant census data in digital form, widely developed geodemographic data bases, as well as census data that is already integrated with GIS software (Beaumont and Inglis, 1989; Flowerdew and Goldstein, 1989; Batey and Brown, 1995; Martin, 1995; Martin and Longley, 1995; Waters, 1995). Census data are collected on a regular basis, they are the source of the most complete, reliable, and widely available demographic information for market research and this has promoted a number of highly successful geodemographic systems inii. marketing.

Geomarketing involves the following elements: database, cartographic information, and GIS for processing and managing information. Database can be either internal (sales, corporate data, customers etc) or external (statistical institutes, municipal census, chambers of commerce etc). the digital maps can come from several sources, such as private companies or cartographic institutes. For example, in Nigeria, Environmental System Research Institute (ESRI), Mapinfo, the spatial technologies limited, base in Lagos, Abuja Geographic Information System (ABUJGIS) the National Population Commission of Nigeria (NPC), National Bureau of Statistics (NBS) all manage and produce digital information.

Finally, GIS is the tool in charge of linking databases with geographic information. As a result, data processing can be performed with this tool and any studies or analysis required may be carried out.

There are two new concepts that can be derived from those defined above; geodemand and geocompetition. The former, geodemand can be defined as the location on a digital map of the customers of a product or a service in a particular market. On the other hand, geocompetition is the location on a digital map of the competitors of a business, and the delineation of their trade area in a particular market (Norat R.T, Amparo B.P and Juan B.V 2013)

**Geodemand Analysis:-**

The steps for geodemand analysis are twofold:

- Calculate the number of housing units per city block from cadastral data.
- Estimate the average number of people per city block.

To calculate the number of housing units per city block, alphanumeric data of the city blocks from the cadastral database of the municipality is associated to the graphical data with the help of GIS. Next, this data is matched with the number of people from the municipal census.

As a result, an estimate of people living in each city block is obtained. This step is more complicated because the information from the municipal census refers to the census tract and, therefore, contains several city blocks. The process for calculating the number of people per household in each census tract is as follows:-
i. First, obtain the municipal census data, along with the census tracts, for the municipality in question so that this information can subsequently be integrated in the GIS.

ii. Second, the residents within each census tract are grouped into the housing units present in that tract.

**Geocompetition Analysis:**

The steps to perform geocompetition analysis are threefold:

i. Identify the competition.

ii. Locate competitors on a digital map.

iii. Define their trade areas.

Once the competitors have been geolocated, the trade areas of each supermarket are calculated and delineated. The trade area is defined in terms of the surface area or size of the establishment (Norat et al. 2013).

The surface area or size is a determining factor in calculating the trade area of a supermarket (Reilly 1931; Huff 1963).

When two or more trade areas overlap due to the proximity between two or more supermarkets, the resulting areas acquire the power of attraction of the sum of the corresponding trade areas. Potential customers who live in that area have a higher commercial offer; therefore, this area is more saturated or occupied. In the literature, this process is known as cannibalisation because supermarkets fight to get these customers (Kelly et al 1993).

In other words, cannibalisation is understood as the portion of the market share of the new store-captured from the existing stores (Suarez-Vega et al. 2012).

3 **The Place and Importance of GIS in Business**

Much Geographic Information (GI) data already exists, most often collected by public organisations in the framework of their mandated management activities, focused on the needs of GI users and potential users, better understand and demonstrate the potential of multimedia GI contents for improvement of commercial and public services to the citizen.

Many of these organisations are beginning to explore the use of Geographic Information System (GIS) in decision making process by generating maps that convey information gleaned from their respective databases.

Spatial display and analysis will be important in many workflow scenarios.

GIS merge cartography, statistical analysis and database technology. The latest iterations wed data analytics with satellite mapping to better locate and identify the prospects/customers. Over the years we have confronted with a lot of examples of GIS applications that have produced useful spatial data products for different organisations from public to private sectors. The applications have clearly been beneficial but most of organisations are still facing with the challenges of implementing applications of GIS technology in Nigeria.

In this context, Nigeria Businesses are confronted with these problems:

- Knowing the best movement beyond GIS implementation practices of today in order to reach/discover the future best practices.
- Identifying the best way to understand and exploit the new GIS possibilities due to the dramatic developments in information technology and communication (high speed networking, data compression, complex data types etc) which can enable significant organisational improvement.
How to keep getting new ideas for improving the implementation of GIS applications to adapt to a continually changing world.

In order to progress on the above problems, the hope is to develop a more systematic theoretical foundation for understanding of GIS application implementation within and among organisations.

Application of GIS for Competitive Advantages
Geospatial Information Systems, capture, store, analyze, manage and present data that are linked to location. In the most simplest terms, GIS merge cartography, statistical analysis and database technology. When it comes to sales, everything must take place somewhere. Customers have addresses, while stores and offices possess specific location. Knowing where customers work, live and play can enhance a firm’s ability to serve their needs, improve marketing performance and create competitive advantage.

By incorporating demographic, geographic, purchasing and spending pattern data in a map interface, relationships between customer data and actual geographical locations are easily visualised. Then be leveraging location-based data by adding customer-rich information, such as customer purchasing patterns and preferences, businesses can easily pinpoint geographical pockets of opportunity and areas with growth potential and frame answers to questions such as:

- Where are our most profitable customer located?
- Where should we open our next store to better serve our most loyal customers?
- Where do our likely prospects live?
- Are we likely to have more competitors?
- What are the strengths of competitors in a particular location?

Such knowledge allows more precise behaviour predictions, which in turn provide better structured up-sell and cross-sell campaigns, precisely targeted renewal efforts and improved prospecting campaigns.

For all business sectors, long-term growth hinges on understanding customers so that others like them can be identified and converted. GIS technology’s data visualisation helps achieve this objective, as it create more efficient marketing campaigns that deliver better return on investment.

The Marketing Mix
In today’s highly competitive environment, marketing is a customer oriented operation that is essential for business successes. Beaumont and Inglis (1989) argue that marketing department face real problems in fully understanding their market and the potential customers for their product and services.

Beaumont (1991) notes that conventionally the marketing mix can be summarised as the four Ps: Product, Price, Place and promotion. He suggests that these should be supplemented with a fifth P- that of the data processing, which makes it possible to integrate GIS and the marketing mix.

The Product: On the product component, this element involves the link between the product attributes and the customer characteristics, the customer characteristic are geographic distribution, which suggest that the design and market of the product will be based on geographic data. The application of GIS for a
product is “to discover where product are selling well and what characteristics of customers in these areas drive the demand” using the same analysis, it can be found what product characteristics make them unattractive in law sales areas, this types of information can be used for making product decision such as line – stretching, line-fitting. Line-modernization and features.

- **The Price:** Geography can influence the price of a product, for example you expect to pay more for gasoline next to an interstate than in a small town considering the proximity to other similar products, discover complementary availability, competing with products or services and other merchant, wholesalers, retailers near can affect the price of a specific product (Hess, Rubin & West, 2014)

- **The Place (Distribution):** Is one of the areas where GIS is used for marketing mix application, examples such as address retail location distribution centres, fixed delivery rusting and flexible delivery rusting can be found on GIS application place.

- **The promotion:** The most important issue is to successfully integrate internal and external information using GIS. The internal and external information of promotion refers to the approach the company will use for the specific product or services, such as personal selling, international selling, local selling, sales promotion, telemarketing, direct mail, product placement, among others (Gillespie & Hennessey, 2007).
Fig 1

Beaumont (1991) Highlight the central role GIS can play as a tool to integrate the various components of the marketing mix to assist strategic decision making.

The Integration of Marketing Mix (Five Ps)
(After Beaumont, 1991 P.140)
Fig. II

**Fundamental Questions in Marketing Management.**

The above figure (Figure II) shows that various dimension of marketing managers’ decision that could be supported using GIS to integrate various data sets that are typically held by an organization. Birkin (1996) has argued that GIS provide useful technical support for data management in a competitive environment by integrating various sources of information, as well as producing attractive graphic displays of data in map form.

4 The Business Environment and the GIS Companies

Nigerian government was directly and significantly involve in business. But the programmes have relegated the government more to its expected regulatory role and indirect influence in the Nigerian business environment. Examples are in the business of telecommunication, banking and insurance, transportation and tertiary education. These have opened windows of opportunities to business in the country. But the highly stewed income distribution pattern in which over 70% of Nigerians have below the poverty line has negative effects on demand for companies product.

Alternative power supply increase the cost of doing business and retards investment in research and development. Many business organizations in Nigeria have leveraged on their strengths to explore opportunities in the Nigerian business environment. Examples are the market leaders and emerging firms in the communications, banking, fast food, talent hunt and other services industries.

Application of GIS functionalities in library to determine marketing of goods and services

Oni (2004) pointed out that a wealth of management issues must be addressed before information technology (IT) can be incorporated into the library setting. It was tagged “effective implementation of IT” which involves: knowledge of recent technological trends; an analysis of library specifications and requirement; a delineation of library goals and objectives; management commitment and support and user education. She listed some questions which must be addressed in any consideration of application of IT to include: what are its key capabilities, advantages and limitations in terms of library goals? What are the planning strategies and techniques? What are the technological requirements and alternative?

As any IT system will consist of a number of separate components that can be implemented separately or integrated into turnkey unit, knowledge of the IT equipment configuration is important so as to reduce the chances of technical problems when the system is in operation. In libraries, several systems have been developed for their various house-keeping chores and more still are being designed and refined, due to the technology of large-scale integration. These are known as micro computer; designed to handled any of the library process like acquisitions, cataloguing, serials control, circulation control, bibliographic control, or selective dissemination of information (SDI) (Ogonsola, 2004).
The use of GIS to depict distance locations of sales points

The suitability of sales points using Euclidean distance analysis

the concentration of businesses in suburb as showing above

Available online: http://edupediapublications.org/journals/index.php/JSMaP/
The application and accessibility of GIS facilitates the free flow of information, creative expression and effective management. The major factors and challenges forced the libraries to adopt information explosion, technological development, provide effective services, increased number of users which include owners of business sectors, increase the expectations of the users, online information retrieval, increase the commercial information providers, and changes the nature of information resources (E – journals, CD – ROMs, and online database etc.) (Davarpanah, 2001)

Ibrahim, Salisu and Iliya (2015) highlighted some problem encountered in using GIS in business sectors to include; lack of awareness about potential application, need for access to accurate data, lack of trained staff, financial needs and lack of information about GIS
technology. They suggested that libraries can provide solutions to some of these problems. More business fail before the growth and maturity stage due mainly to weaknesses. This has accounted for the inability of many small and medium scale enterprises to grow, develop and transform into large and mega scale corporate businesses. Furthermore, many businesses are incapacitated by inadequate financial resources and bedevilled with fraudulent reporting, greed and recklessness, short termism, executive compensation, poor risk attitudes etc.

Following these challenges, therefore, increasing awareness of GIS technologies will encourage more and more organizations to explore the potential of their spatial data and economic and strategic benefits this can bring them. GIS solutions can benefit almost any organization, in almost any industry regardless of size. GIS is the ultimate decision support tool in the business world. Visualizing location data can help identify new areas of opportunity and potential problem areas. Common examples include business site selection, route optimization, asset location and customer catchment area analysis. The visual nature of GIS means that relevant data can be presented clearly, facilitating comprehensive analysis and comparison of available options upon which fully informed business decision can be made.

**SOME ESTABLISHED GIS COMPANIES IN NIGERIA:**

**Polaris Digitech Limited:**
Located at Suite C17, MKO Abiola Gardens, CBD Ikeja, Lagos, Nigeria is a dominant pan–African location support services to fulfil its clients strategies and management needs through the development and deployment of geographic information system (GIS) professionals in the fields of geographic, information technology, geometrics, surveying and remote sensing work in a highly technological enabling environment to achieve its objectives.

The company was established in 2002 with a vision to be a dominant twenty – first century geographical information technology, location intelligence and surveying firm, spearheading the growth of a new phenomenon in the Nigerian geo–spatial data industry. Polaris, as it is referred to by its wide range of client utilizes location intelligence and information data to revolutionize the way individuals and organization conduct business.

**Geomatics Nigeria limited:**
The company’s Head office is located at plot 7, Road 302, off DPC Road, Agodi GRA, Ibadan, Oyo State, Nigeria.
It is a Nigerian consultancy firm with 75% Nigerian ownership while its Canadian affiliates own the remaining 25%. It presently has employees at four office locations in Nigeria (Lagos, Ibadan, Akure and Abuja), and it has plans to grow rapidly to other locations in West Africa. Most of it employees are trained both in Nigeria and oversea. The company is developing as a centre of excellence in environment management, water resource, forestry, land use management and social – economic analysis, expanding technical capabilities in order to serve clients better.

**Spatial technologies limited (STL)**
Is a Nigeria’s foremost and award winning GIS solution provider and supplier of accurate Nigeria digital map data. It specializes in developing geospatial databases about Nigeria for the Nigerian market. Today with an office in Lagos and United Kingdom, it stand on the threshold of solid expansion and opportunity in the industries it serve.

STL contracted to undertake the audit and location mapping of over 18 million electricity meters and transformers for one of Nigerian licensed Discos...... STL receives the top 20 West African convergence leader award...... STL launches Nigeria’s first online map based billboard location finder for Lagos...... UBA Plc selected STL for branch expansion project...... Search and compare the prices of over 800 hotels in Lagos in one click from Lagos location.com...... STL won RIMA foundation award for best GIS solution provider in Nigeria. Others include:

- Geospatial Data Solution Ltd 53, Adebola Street, off Adeniran Ogunsanya Street Surulere Lagos, Nigeria.
- Greenland Consult No. 9 Abeokuta Road, Apata Ibadan Oyo Street Nigeria.
- Survenet Integrated Limited 3 Bayo Ajayi Street, 1st Floor, Agidingbi, Ikeja Lagos, Nigeria.
- Eagle Eye Geographics Ltd 4 Secretariat Road, Jos Plateau State, Nigeria
- Hedgemarks street Rumuomasi, Port Harcourt, Rivers State Nigeria.
- Column Geomatics Services 66, Eleshin Street, Obalende Lagos, Lagos island Nigeria.

Gtb Asset Management Limited 37, Karimu Kotun Street, Eti Osa, Victoria Island Lagos Nigeria.

Over the years some product distribution companies in Nigeria have created a distribution network of dealers across Nigeria ranked into major, minor and sub-dealers. They have discovered managing their network using tabular databases in excel, Microsoft access is very ineffective. They found it impossible to visualize the logical relationship between the dealers using these traditional methods.

GIS companies can help define and map out scale territories for major, minor and sub dealers in retail distribution network. Using the power of GIS and digital maps. They can identify territory overlaps or gaps in the marketplace in a consistence and efficient manner. This type of analysis can help business sectors develop the optimum Territory definition to achieve the best market coverage and assist in helping it to assess the sale potential of each territory for targeting setting. For any city within Nigeria that a retailer operates in, for which it has sales data available, GIS companies can help in understanding and bench marketing its best performing outlets and more importantly explain why they are performing so well using the visual power of GIS.

GIS companies such as STL empowers its customers or clients to perform their own market analysis and modeling if they have the in – house resource and skill to do so. A professional off – the shelf GIS and mapping software is provided on license as a desktop application. Unlimited training and a team of dedicated technical helpline is also provided.
5. Conclusion and Recommendations
This paper review geographic information system with specific reference to the marketing activities in business sectors in Nigeria. The study has shown that geographic information system is a system by which business sectors can see the geography in a different angle and make interpretations and judgment regarding marketing issues. The study reveals that people who share geographic environment also tend to share behaviors, consumption habits and related attitudes. Therefore, the location of customer and analysis of their environment become relevant.

The analysis shows that when two or more trade areas overlap due to the proximity between two or more supermarkets, the resulting areas acquires the power of attraction of the sum of the corresponding trade areas. Therefore potential customers who live in that area have a higher commercial offer.

Over the years some business sectors in Nigeria are beneficial of the application of GIS but most organization are still facing with the challenge of implementing the application of GIS, this study develops a more systematic theoretical foundation for understanding of GIS application within and among organizations. The study also suggested the application of GIS functionalities in library to determine marketing of goods and services.

At present there are various GIS companies operating in Nigeria this study point out these companies where business sectors can use for growth and development of their businesses in relation to their mission or vision statement. Consequently, this paper recommends for reconsideration; that combining demographic databases offers the potential for substantially increasing a company’s capability for marketing analysis. Awareness need to be made on the existence and function of GIS companies in the country. More effort still need to be invested in GIS development for providing analysis, in such mission – critical areas as site selection, target marketing, prospect analysis, territory allocation and media planning.

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