

GIS-based Reality Analysis: Business Hotels Tourism In Khartoum State

Taha Alfadul Taha Ali, TahaPilot13@gmail.com

*Alzaim Alazhari University, Director of Geoinformatics Centre ,Khartoum, Sudan
Coordinators on Computer Science Information Technology College ,Khartoum, Sudan*

Abstract

This paper discusses the tourism reality analysis for hotels tourism using geographic information system(GIS) in Khartoum state. The motivation includes the lack information and research in these fields, there is no knowledge serve the tours and visitors or decision makers in hotel tourism. The objectives are to Collect and classify the hotel tourism, Product Maps for hotel tourism, and Statistical Analysis for hotel tourism. The importance's support the decision makers or tours. The methodologies include three phase: Analysis, Design and Implementation. The results include, first: Classify the hotel tourism, second: Product Maps : 5-Star Map, 4-Star Map, 3-Star Map, 2-Star Map and 1-Star Map, and third Statistical Analysis for hotel tourism. The recommendations Classify the hotel tourism and spatial analysis in Sudan, Developments the geographic distribution for hotel tourism in Sudan, and Distribute the hotel tourism in Sudan according the service tourism tours.

Keywords—Geoinformatics, DDS(Dicision Support System), Geostatistical Analysis, Base Maps.

I. INTRODUCTION

GIS is one of the Geoinformatics fields, The Case Study in Business hotels, According to the World Tourism Organization, tourists are people who travel to and stay in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited[1]. the word tourism as any

business-like transport, entertainment or places to stay, involved in the service of people who are on a holiday. A tourist is an individual, who visits a place for interest or pleasure, usually during a holiday[2]. Tourism can be defined as a set of activities (for leisure, business, religious, health and personal purposes) engaged in by persons temporarily away (maximum of one year) from their usual environment, excluding the pursuit of remuneration from within the place visited or long-term

change of residence[3]. The Stephen and smith[4] were argued that they do exist, and presents a model that describes the product as consisting of five elements: the physical plant, service, hospitality, freedom of choice, and involvement. Other researcher suggested five and another set for example : The Five A's of tourism: Attractions, Access, Accommodation, Amenities and Awareness[5]. The Six A's of tourism: Attractions, Accessibility, Amenities, Ancillary services, Available packages and Activities[6].

The motivation includes the lack information and research in these fields, there is no knowledge serve the tours and visitors or decision makers in hotel tourism. The objectives are Collect and Classify the hotel tourism, Product Maps for hotel tourism, and Statistical Analysis for hotel tourism. The importance's support the decision makers or tours. Utilization of GIS technology for tourism management in Victoria island lagos,2013[7]: This study covers tourism destinations which include beach, Museums, Parks and resorts, hotels, restaurants, clubs, bars, cinemas and fitness centers, as well as complementing tourism

destination Services which includes police post, clinics and hospital in Victoria Island Lagos and how the utilization of GIS technology can be used to improved tourism management. An analysis of urban hotel location focusing on market segment and local & foreign guest preference [8] The general factors determining the success or failure of hotel management are: the chief executive's ability, scale and rating of the hotel, the relationship to the local market, and the hotel's location. Above all, the location of hotels, as a limiting factor. A GIS-based decision-support system for hotel room rate estimation and temporal price prediction: The hotel brokers context[9]: The vastly increasing number of online hotel room bookings are not only intensifying the competition in the travel industry as a whole, but also prompt travel intermediates (i.e. e-companies that aggregate information about different travel products from different travel suppliers) into a fierce competition for the best prices of travel products, i.e. hotel rooms. An important factor that affects revenues is the ability to conclude profitable deals with different travel suppliers.

II. STUDY AREA

The Study Area is Khartoum is the capital of the Khartoum State, it divided to 7 lower government level called Al mahalyat they translate it as localities, it is similar to districts, Municipalities and they are (Al Khartoum locality, Al Khartoum bahri locality, Um durman locality, Jabal awliya locality, Sharq alneel locality, Ombadda locality, karary locality,)[10].

III. METERIALS & METHODS

There are five requirements: Data, Hard ware, Software, People, and Procedure.

- A. *Hardware & Software:* we should need many PC, Network and other Hardware materials. In addition the software metrials likes GIS software.
- B. *Data & People:* there are many data such spatial data and description data for hotels in khartoum. People Access data depend layers.
- C. *Methods Or Procedures*
The we should explain result analysis of reality analysis for Tourism hotel using Geographic

Information Systems (GIS). GIS helps in frame working approaches to achieving sustainable tourism development. According to Crain and Macdonald[11], GIS applications in tourism settings can be viewed from the following: the first phase (inventory) gathers the interest information[12], the second phase (analysis) scrutinizes the information gathered and the third phase (management) involves transferring data to a decision support system.

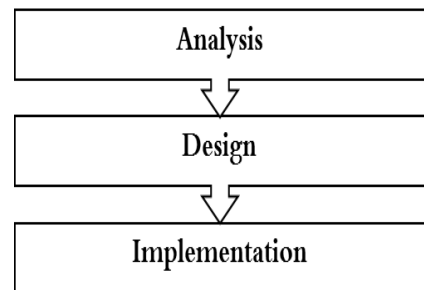


Figure 1: Methods of GIS-based Tourism hotel

- **Analysis phase:** we should explain the requirement of GIS application, collect and classification data for hotels in Khartoum.
- **Design phase:** we should explain the Design product maps for hotels using GIS

- **Implementation phase:** we should implement the statistical analysis for hotels in Khartoum.

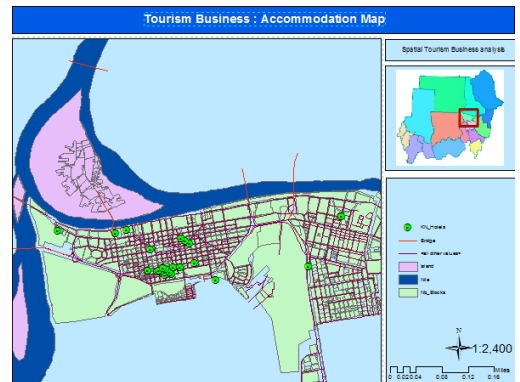


Figure 3: Map: Hotels in Khartoum

IV. RESULTS & DISCUSSIONS

There are many tourism hotels in Khartoum, Accommodation contains the Hotels and Apartments. There were 41 hotels classified in Khartoum, 5Stars, 4Stars, 3Star, 2Star and 1Star.

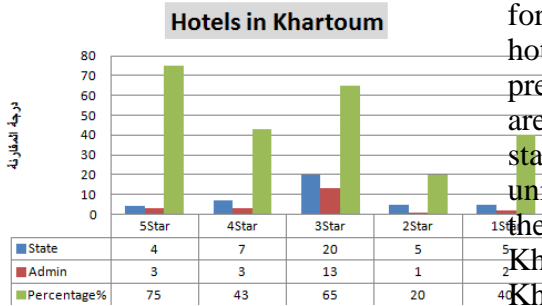


Figure 2: Chart: Hotels in Khartoum

There are 4 hotels for 5stars in Khartoum state and 3 hotels in Khartoum north unit, it presented 75%. Also, there are 7 hotels for 4stars in Khartoum state and 3 hotels in Khartoum north unit, it presented 43%. There are 20 hotels for 3stars in Khartoum state and 13 hotels in Khartoum north unit, it presented 65%. In addition, there are 5 hotels for 2stars in Khartoum state and 1 hotel in Khartoum north unit, it presented 20%. Finally, there are 5 hotels for 1star in Khartoum state and 2 hotels in Khartoum north unit, it presented 40%.

- **5- Stars Hotels:**

bellow the chart of hotels in Khartoum and map of 5 Star hotels in Khartoum.

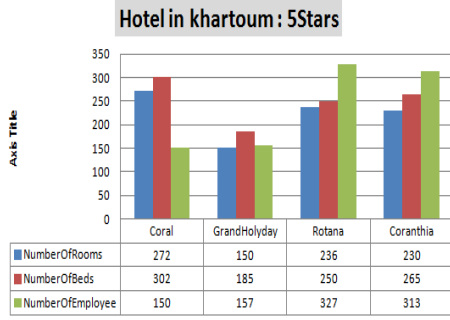


Figure 4: Chart: Hotel 5-Star in Khartoum

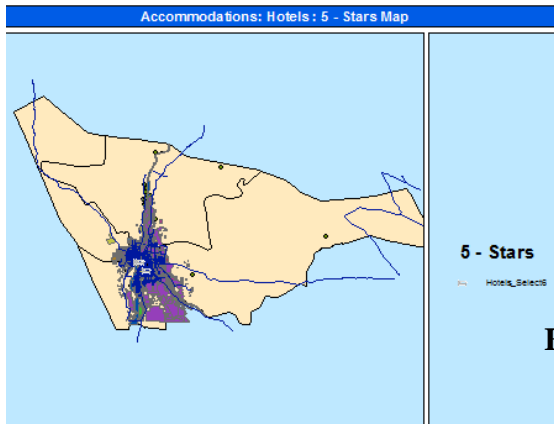


Figure 5:Map : 5- Stars Hotels.

bellow the chart of hotels in Khartoum and map of 4 Star hotels in Khartoum.

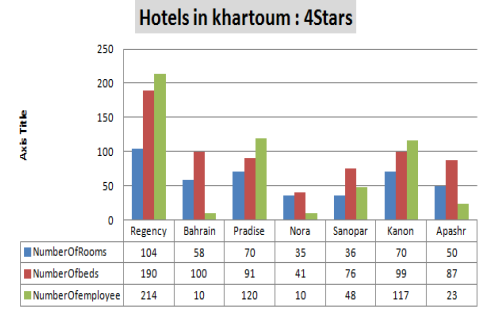


Figure 6 : Chart: Hotel 4-Star in Khartoum

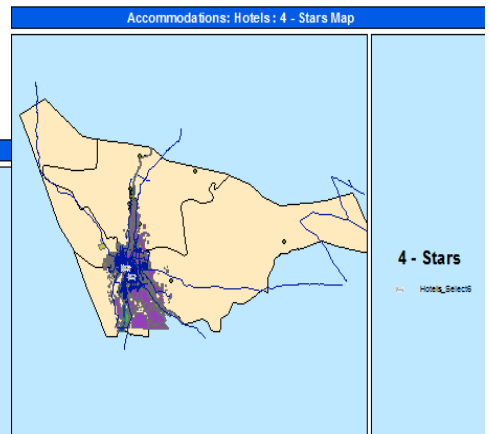


Figure 7: Map: Hotel 4-Star in Khartoum

• **3- Stars Hotels:**

bellow the chart of hotels in Khartoum and map of 3 Star hotels in Khartoum.

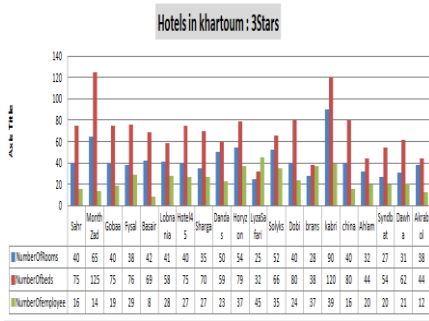


Figure 8 :Chart: Hotel 3-Star in Khartoum

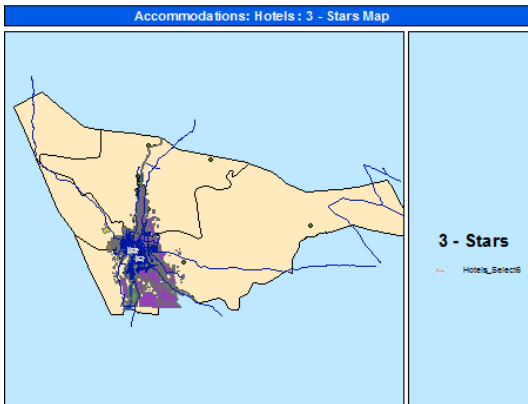


Figure 9 : Map: Hotel 4-Star in Khartoum

• **2- Stars Hotels:**

bellow the chart of hotels in Khartoum and map of 2 Star hotels in Khartoum.

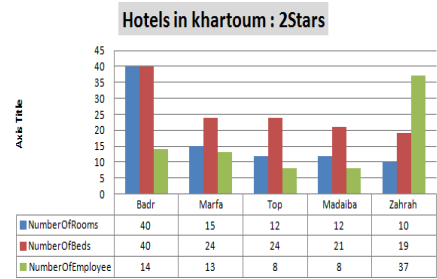


Figure 10 : Chart: Hotel 2-Star in Khartoum

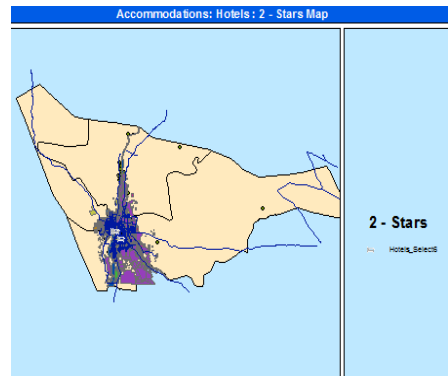


Figure 11 : Map: Hotel 2-Star in Khartoum

• **1-Stars Hotels:**

bellow the chart of hotels in Khartoum and map of 1 Star hotels in Khartoum.

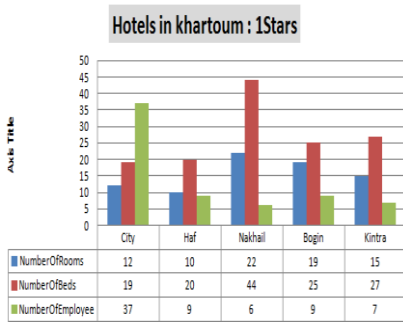


Figure 12 : Chart: Hotel 1-Star in Khartoum

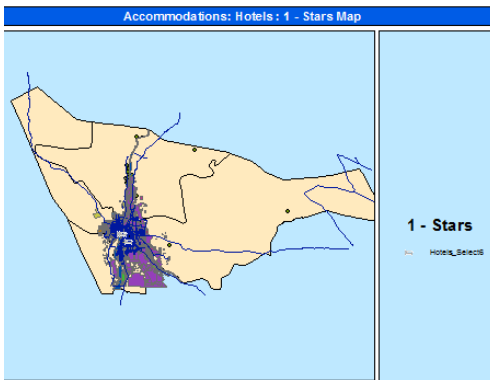


Figure 13 : Map: Hotel 1-Star in Khartoum

In Khartoum state: 5 Star hotels: There are 888 rooms, 1002 beds and 947 employees. In 4 Star hotels: There are 423 rooms, 684 beds and 542 employees. In 3 Star hotels: There are 848 rooms, 1381 beds and 497 employees. In 2 Star hotels: There are 89 rooms, 128 beds and 80 employees. In 1 Star hotel: There are 78 rooms, 135 beds and 68 employees.

V. CONCLUSION

This research clarifies the capability of Geographic information system for business hotels through collect and classify data hotels in Khartoum, in addition to produce many maps for hotels in Khartoum, finally statistical analysis for hotels in Khartoum. In the future work measuring and evaluation hotels in Khartoum or Sudan.

References

- [1] WTO, "Concept of Sustainable Tourism. [http:// www.worldtourism.org/sustainable/concepts.htm](http://www.worldtourism.org/sustainable/concepts.htm)," world Tour. Organ., 2001.
- [2] "Mckercher, Bob (1996). Differences between tourism and recreation in parks. *Annals of Tourism Research*, vol. 23, No. 3, pp. 563-575."
- [3] "Smith, S. (2004). The measurement of global tourism: Old debates, new consensus, and continuing Challenges. In A. A. Lew, C. M. Hall, & A. M. Williams, *A companion to tourism* (pp. 25-35). Oxford: Blackwell."

- [4] “SMITH, S. L. J. (1994), The Tourism Product. *Annals of Tourism Research*, 23 (3), 582-595.”
- [5] “Tourism Western Australia (2009): Five A’s of Tourism. URL: http://www.tourism.wa.gov.au/jumpstartguide/pdf/Quickstart_five%20A%27s%20of%20TourismLOW.pdf(Accessed: 01.11.2012).”
- [6] “Buhalis, D. (2000): Marketing the competitive destination of the future. *Tourism Management* 21(1), pp. 97-116.”
- [7] O. S. Abomeh, O. B. Nuga, and I. O. B. C, “UTILISATION OF GIS TECHNOLOGY FOR TOURISM MANAGEMENT IN VICTORIA ISLAND LAGOS,” vol. 9, no. 3, pp. 92–118, 2013.
- [8] E. Min PARK and Y. Ook KIM, “an Analysis of Urban Hotel Location Focusing on Market Segment and Local & Foreign Guest Preference,” *Proc. Eighth Int. Sp. Syntax Symp.*, pp. 1–17, 2012.
- [9] S. Kisilevich, D. Keim, and L. Rokach, “A GIS-based decision-support system for hotel room rate estimation and temporal price prediction : The hotel brokers context,” *Prepr. Submitt. to Decis. Support Syst.*, 2012.
- [10] “<http://www.sudan-tourism.gov.sd/En/Khartoum.html>.”
- [11] “Crain, I. K., & MacDonald, C. L. (1984). From land inventory to land management. *Cartographica* , 40- 60.”
- [12] “Rhind, D. W. (1990). Global databases and GIS. In M. F. Foster, & P. J. Shands, *The association for geographic information yearbook 1990*. London: Taylor & Francis.”