

Using GIS to Measure In-Library Book-Use Behavior

Jingfeng Xia

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ABSTRACT

This article is an attempt to develop Geographic Information Systems (GIS) technology into an analytical tool for examining the relationships between the height of the bookshelves and the behavior of library readers in utilizing books within a library. The tool would contain a database to store book-use information and some GIS maps to represent bookshelves. Upon analyzing the data stored in the database, different frequencies of book use across bookshelf layers are displayed on the maps. The tool would provide a wonderful means of visualization through which analysts can quickly realize the spatial distribution of books used in a library. This article reveals that readers tend to pull books out of the bookshelf layers that are easily reachable by human eyes and hands, and thus opens some issues for librarians to reconsider the management of library collections.

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More descriptions about collection arrangements of MacKimmie Library can be found in reference 11, "GIS in the Management of Library Pick-up Books."

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McGrath also excluded periodicals from his survey on in-library book use. W. E. McGrath, "Correlating the Subject of Books Taken Out of and Used Within an Openstock Library."

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A GIS-based approach is used to measure accessibility of dwellings at the parcel level to the nearest bus stop. The distance decay parameters of the accessibility function are empirically derived by varying intercept and slope values systematically using ordinary least-squares regression. Demand at the bus stop level, as measured by average morning peak hour boardings, is related by regression to a measure of accessibility-weighted dwelling units that controls for competing bus stops. This examination of walking distance to bus stops focuses on potential transit demand from a residential s Jingfeng Xia, "GIS in the Management of Library Pick-up Books," *Library Hi Tech* 22, no. 2 (2004): 209-16; Jingfeng Xia, "Library Space Management: A GIS Proposal," *Library Hi Tech* 22, no. 4 (2004); Jingfeng Xia, "Locating Library Items by GIS Technology," (Under Review) . More descriptions about collection arrangements of MacKimmie Library can be found in reference 11, "GIS in the

Management of Library Pick-up Books." E. E. Nkereuwem and U. Eteng, "Operations Research in Library Management." McGrath also excluded periodicals from his survey on... Xia, J. (2017). Using GIS to Measure In-Library Book-Use Behavior. *Information Technology and Libraries*, 23(4), 184-191. <https://doi.org/10.6017/ital.v23i4.9663>. More Citation Formats. KEYWORDS: Visualization Analysis, Library Information Retrieval Behaviour, Literature Review, Bibliometric Content Analysis. JOURNAL NAME: Open Access Library Journal, Vol.7 No.7, July 23, 2020. ABSTRACT: This paper presents an international literature review on the hot topic of library users' information retrieval behaviour in recent years. Through the usage of bibliometric content analysis and social network analysis methods, the paper finishes the work of data cleaning and integration, referring to the quantitative analysis of results produced by CiteSpace, a literature citation visualizati Geographic Information Systems (GIS) helps us understand what belongs where. GIS is a computer-based tool that examines spatial relationships, patterns, and trends. By connecting geography with data, GIS better understands data using a geographic context. The 4 main ideas of Geographic Information Systems (GIS) are: Create geographic data.