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Editorial

Significance and variety of geographic information system (GIS) applications in retail, hospitality, tourism, and consumer services

1. Introduction

The eleventh European Institute of Retailing and Services Studies was held in Portland, USA in July 2003. The twelfth European Institute of Retailing and Services Studies was held in Prague, CZ in July 2004. There were hundred submissions to the two conferences. The average acceptance rate was 50%. Papers came from more than 50 countries and represented a rich variety of perspectives and activities. There were 14 geographic information system (GIS)-related papers published in the proceedings for the two meetings. The focus of the GIS sessions was on modeling and development issues involving GIS technologies. Topics covered included architectures for spatial systems, geo-decision support applications, collaborative implementations, instructional GIS design issues, networking objects, geo and meta-data, virtual reality and much more.

The conference President supports the GIS session Chair to announce a call for paper for the GIS Special Issue during the conferences and post the announcement at various professional associations after the meetings. Based on the evaluations of several reviewers on 22 submitted papers, 5 papers were accepted to be further elaborated, refined, and revised for publication in this special issue of Retailing and Consumer Services. The selection of these papers was based on several criteria, including innovation, quality and representation. As the GIS session Chair and Guest Editor of this GIS special issue, in what follows the reflective comments on this selected collection of research and development in the area of GIS applications are offered.

2. Focusing on applications and systems

What do these papers have to say about GIS in terms of applications, theories, and systems? Several papers address innovative uses of GIS technology in case-study-based settings. Hernandez (this issue) examines the use of the geo-visualization system in the retail industry at micro-level, market, regional, and national scales. At the micro level, the author details the measurement of the profitable operation of a leased retail space and indicates how the geo-visualization system could be used to support decisions relating to lease renewals, anchor tenant subsidies, mall access planning, and optimizing tenant mix. At the market level, the author demonstrates how an ethnic composition of businesses along the Greater Toronto Area's retail strips decreased over the 1993–2003 period. At the regional level, the author illustrates how the geo-visualization application could facilitate the spatial analysis of retail sales by category across the entire regional portfolio of stores. At the national level, the author uses the dominant metropolitan markets of Toronto, Montreal, Vancouver, Calgary, Edmonton and Ottawa and the selected data from 70 retail-related standard industrial classification (SIC) codes to map retail sales. In the last section of this paper, the author discusses the merits and challenges of integrating geo-visualization techniques and technologies within existing decision support activities.

Based on the macro-level retail location theory, the paper by Shields and Kures (this issue) examines a number of economic and spatial factors that may have influenced Kmart store closing decisions. The authors use a Logit model and the GIS to delineate market size, local income, spatial competition and agglomeration, transportation costs, and other local demographic characteristics. The store closings data were provided by the Kmart Corporation and the locations of closure stores were geocoded using ESRI's ArcView 8.2. Though their model does not capture strategic changes that may have resulted from bankruptcy, the authors conclude that there are effects of both competitive and demographic factors on the fate of closure stores. This paper adds the notion that the spatial analysis of market condition including the batch processing of transportation network analysis calculations, spatial queries and geocoding of store locations can be achieved due to the use of the macro programming abilities included in the modern GIS software packages.

The paper by Dye and Shaw (this issue) introduces the usefulness of a GIS-based spatial decision support system (SDSS) application in tourism. The authors detail the trend and history of GIS and SDSS theories and applications. They also illustrate how the combinations of GIS functions

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and SDSS designs can assist visitors of the US Great Smoky Mountains National Park (GSMNP) in selecting attractions based on their activity preferences and time constraints. The authors recognize that while there has been much attention devoted to SDSS there is rather sparse empirical evidence describing the advantages of using a GIS-based SDSS for the planning and implementation of effective on-site travel decisions. The GIS technology and the SDSS represent important contributions toward spatial-based research and development in tourism industry.

The paper by Song and Sohn (this issue) reports on how the spatial accessibility to retailing is valued by households. This study aims to evaluate the effects of enhanced access to retailing on a single family housing market in the City of Hillsboro, Oregon. The authors use the GIS to develop an Accessibility Index that accounts for both supply and demand sides at regional and neighborhood levels. The authors facilitate the hedonic price analysis integrated with the Accessibility Index and input the obtained data on the sale of single-family residential properties in the City of Hillsboro to examine how the spatial accessibility to retailing affects single-family housing prices. The authors conclude that there is a positive effect of retail access on housing price and provide recommendations for decision-makers in retail planning and land use planning, and developers of location efficient development.

The paper by Chen (this issue) describes GIS course development for Retail, Hospitality, and Tourism graduate students. She develops GIS courses that provide an overview of the conceptual, analytical, and technical issues involved in working with geographic databases and GIS software. Presentations, case studies, and participatory discussions are used to illustrate the use of the GIS technology in retail, hospitality, and tourism applications. The author shows how the GIS enables graduate students to employ buffer and logistic functions, derive new information from existing data, analyze, classify grids and themes, and map locations of attributes. The results of this paper illustrates the existing resource allocation and provides information for better understanding, planning, development, and site selection for the adjacent communities of the study area. The paper represents an important extension of GIS technology into group-based activities that may be organized around schools and classrooms in the field of retail, hospitality, and tourism management.

3. GIS research and development

This special issue brought together scholars from different disciplines with diverse views and backgrounds. More extended collaborations may be identified and underway as a result, which is a main benefit of special issue publications. This GIS Special Issue is concerned with GIS technologies aimed at exploring multi-disciplinary GIS research development. As a society of scholars and professional practitioners, we ought to be using the GIS technologies we advocate in support of teaching, learning, outreaching, and research to make contributions in the real world and literatures. In short, the GIS technologies discussed in this special issue represent an important aspect of the current GIS implementations and demonstrate the possible future trends of GIS applications and theories.

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