

GEOGRAPHY, REAL ESTATE, AND MERCHANDISING

Assessing the Emergence of New Application
Paradigms for GIS in the Retail Sector

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GIS in Retail: Opportunity for New Application Paradigms

- In recent years, geospatial technologies and geographic thinking have gained wide acceptance across the business community
- The inherent value of GIS for many distinctive applications has made its progress relentless, even if the “GIS” term itself is not yet universally recognized
 - *Everyone knows Google Maps*

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GIS in Retail: Opportunity for New Application Paradigms

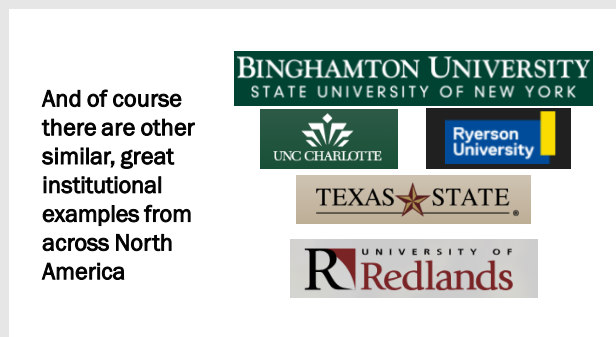
- UNT is one example of an institution with graduates using geospatial technologies in a wide range of business settings



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GIS in Retail: Opportunity for New Application Paradigms

- UNT is one example of an institution with graduates using geospatial technologies in a wide range of business settings



And of course there are other similar, great institutional examples from across North America

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GIS in Retail: Opportunity for New Application Paradigms

- UNT is one example of an institution with graduates using geospatial technologies in a wide range of business settings
- This broad GIS use by our graduates has provoked us to wonder: do our alumni use geospatial technologies well?
 - *Are we employing GIS to its maximum potential?*
 - *Can we construct new GIS application paradigms that add to the business and consumer value equation?*

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GIS in Retail: Opportunity for New Application Paradigms

- Common link with most of our business geography alumni:
 - *Their core job function almost always focuses on some aspect of real estate decision-making*
 - Site Selection
 - Market Area Analysis
- Real estate has an obvious application path in geography, but what about other areas of business practice?

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GIS in Retail: Opportunity for New Application Paradigms

- This question is especially noteworthy given the period of dislocation and transition that is now ongoing in the retail sector
 - *Bricks-and-mortar retailers being challenged by digitalization and the empowerment of consumers*
 - *Emergence of business models based on serving consumers using an array of technological and logistical tools and channels*

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The Key Point

- We argue here that today's evolving technology environment is opening up a new, largely untapped market for geospatial data and analysis
 - *There is real potential for geographic analysis to make a transformative difference, even for retail businesses who have used geospatial analysis and thinking in the past*

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A Context for Change

- We all know the ground rules of retail are undergoing a revolution: omni-channel shopping and unified commerce
 - *In this new retail landscape, consumers have vast power, empowered by technology and information*
 - **Positives for retailers:** new opportunities to serve consumers far better and gain their loyalty
 - **Negatives for retailers:** painful new competition, particularly in the bricks-and-mortar dimension of retail

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A Context for Change

- We all know the ground rules of retail are undergoing a revolution: omni-channel shopping and unified commerce
 - *It is more challenging to find a downside for consumers*
 - **The digitalization of retail:** new and better product and service search and delivery options, many of which are available 24/7

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A Context for Change

- We all know the ground rules of retail are undergoing a revolution: omni-channel shopping and unified commerce

What are the opportunities for a geospatial contribution in this emerging retail environment?

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Emerging Geospatial Opportunities

- **Key application domain:** geospatial analysis focused on new, diverse shopping paths and patterns that have been enabled by retail digitalization:
 - *Technology & information guiding complex uses of physical infrastructure (real estate, logistics)*
- **Key gap:** lack of geographic understanding/elaboration of how these consumer journeys have evolved from the pre-web era to today

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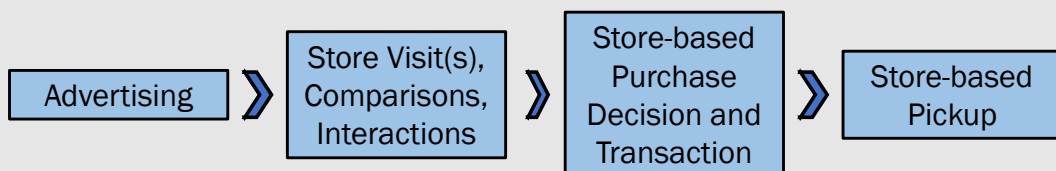
Emerging Geospatial Opportunities

- **“Consumer journey”**: the cumulative set of direct and indirect touchpoints between a customer and a business during the entire pre-purchase/purchase/post-purchase sequence
 - *Inherently multidimensional: involving cognitive, emotional, behavioral, and social components*

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Emerging Geospatial Opportunities

- **“Pre-eCommerce” consumer journey**: well conceptualized as a linear process



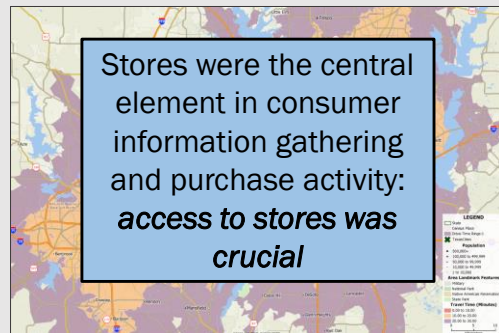
After Andrew Murray and Tony Hernandez (2016) *The Canadian Omni-Channel Retail Landscape*, CSCA.

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Emerging Geospatial Opportunities

- “Pre-eCommerce” consumer journey: well conceptualized as a linear process

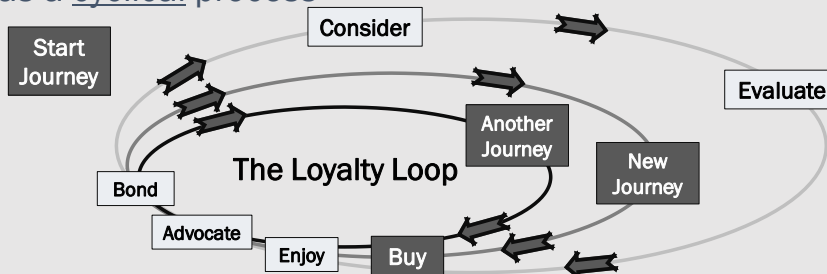
The relatively simple structure of the pre-eCommerce consumer journey lent itself well to straightforward geographic analysis focused on store locations and market areas



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Emerging Geospatial Opportunities

- “eCommerce era” consumer journey: better conceptualized as a cyclical process



After David Edelman and Marc Singer, 2015, *Competing on Customer Journeys*, HBR.

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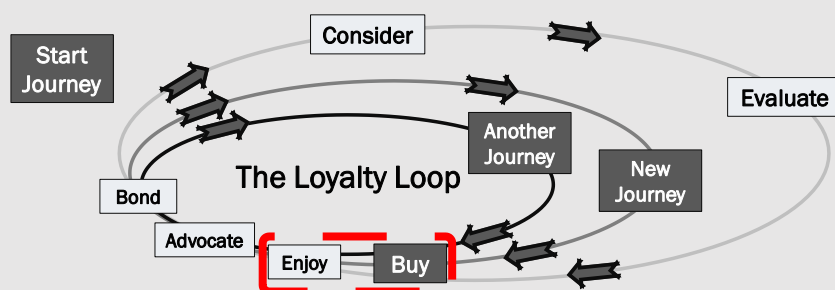
Emerging Geospatial Opportunities

- **Key observation:** even in a world that includes eCommerce, all of this is happening somewhere in geographic space
 - *Perhaps geography is a secondary factor in some elements of the consumer journey, but not all*
 - *An understanding of location will provide benefit in a wide range of retail application domains*

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Emerging Geospatial Opportunities

- **One example:** consider the portion of the consumer journey between “buy” and “enjoy”

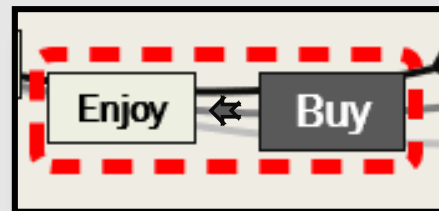


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Emerging Geospatial Opportunities

■ What is this?

- *Acquisition: the flow of merchandise from retailer to consumer*
- *In an omni-channel context, consider the multiple merchandise flow paths to be planned and coordinated*



This is only one small part of the "loyalty loop"

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Emerging Geospatial Opportunities

■ What is this?

There are more geospatial application possibilities yet:

Consider ► Evaluate || Evaluate ► Buy the

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Conclusion

- We argue there are many opportunities for a geographic contribution throughout the loyalty loop
 - One under-developed, high-potential contribution area relates to merchandising:
 - Product, infrastructure, and consumer location variables
 - Merchandising contributions could (in part) be well-situated within the bounds of transport geography
 - But the channel planning opportunities are more complex than traditional geography research has addressed

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Conclusion

- We argue there are many opportunities for a geographic contribution throughout the loyalty loop
 - Future retail geographic research is needed to address the full sweep of the loyalty loop
 - Including everything from consumer search to the post-purchase experience and on to subsequent purchase cycles
 - A re-imagined geography-retail partnership can lead to a new application paradigm that has the potential to transform the retail industry yet again

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Business Geography
is still only scratching
the surface in
applying geography to
the broad spectrum of
opportunities to
develop competitive
advantage in the
retail sector

Walmart's US Logistical Network: Stores and Distribution Centers

