

GGR252
MARKETING GEOGRAPHY
REVIEW NOTES *

D. Wang & C. Zhao

Last Revised: May, 1st, 2006

Contents

1	Marketing, Geography & Marketing Geography	3
1.1	Urban Services	3
1.2	Hierarchies of services	3
1.3	Public & Private Sector Perspective	3
1.4	Overview of Retail Market & Retail Supply	3
2	Spatial Concepts & the Value of Geographical Perspective	3
2.1	Distance Decay	4
2.2	Gravity Model	4
2.3	Intervening Opportunity	4
2.4	Range	4
2.5	Diffusion	4
2.6	Demand and Distance: the spatial demand curve	4
2.7	Accessibility and the Value of Location: The Bid-Rent Model (Trade-off Model)	5
2.8	The Hotelling Model	5
2.9	Bounding of Spatial Market	5
2.10	Unifying/Simplifying Assumptions (Role of Models)	5
3	Trade Area Delimitation Techniques	6
3.1	Normative Approaches	6
	Thiessen Polygon	6
	Converse Breakpoint	7
	Huff Model	7
	Critique of normative approaches	7

*For spring semester, 2006. Lectured by Prof. Swales

3.2	Behavioral Approaches	8
	Customer Spotting (Market Penetration) Techniques	8
3.3	Relevant Concepts	8
4	Site Selection Techniques	8
4.1	Seven Methods	8
4.2	Concept of Regression	9
4.3	Site Evaluation Using Multiple Regression	9
	How to Apply Regression Analysis	9
5	The Geography of Demand: The Market	9
6	The Geography of Supply: Retail	11
6.1	The Major Actors	11
6.2	A Typology of Urban Services	11
	Typologies of Retail	11
	Intra-Urban Retail Hierarchies(Structure)	12
	Diversity of Characteristics	12
6.3	Retail Concentration	12
	Locational Strategies	12
6.4	Retail Chains/Franchises	13
	Advantage of Retail Chains	14
	Disadvantage	15
6.5	Re-emergence of non-store retailing	15
7	Market Demand Changes and Retail Supply Responses	15
8	Non-Store Retailing	16
8.1	E-retailing	17
	Problems	17
	Corporate Strategies	17
	The end of geography?	17

1 Marketing, Geography & Marketing Geography

1.1 Urban Services

shopping (retail), wholesaling and warehousing, offices, medical services, public utilities

1.2 Hierarchies of services

Please refer to [6.2](#)

1.3 Public & Private Sector Perspective

Public subject to direct public control, usually via a local government

1. primary interest: size of facilities, relative spatial locations and extent of area served
2. centers on the operational implications of the alternative strategies in terms of efficiency with which the service is provided
3. social implications are also considered

In brief, public sector serves as much people as possible at minimum level.

Private

1. profit-driven

1.4 Overview of Retail Market & Retail Supply

2 Spatial Concepts & the Value of Geographical Perspective

Planned very controlled, all planned out

- e.g. shopping mall

Unplanned • e.g. retail strip (traditional street)

Retail Chain 4+ stores under the same ownership

- Most money made by retail chain

Independent Stores • most stores are in this category

- traditional, family-owned

Site physical attribute of a location

2.1 Distance Decay

With increasing distance from a location, interaction with the location will decrease

Friction of Distance the deterrent or inhibiting effect of distance on human activity

Disincentive nature of distance one reason why interaction decreases with distance
economic cost, in time and money, to covering distance;
— the longer the distance, the greater the cost to cover it

Distance Decay the rate at which a particular activity or phenomenon diminishes with increasing distance

Utility the usefulness or attraction of a center to customers

2.2 Gravity Model

- Spatial attraction depends on not only distance but also attraction(size) of the center
- Places vary attractiveness by size: the larger, the higher attractiveness
- e.g. Power node vs. Regional mall

2.3 Intervening Opportunity

Definition: alternative origins and/or destinations that will affect the volume and pattern of customer behavior (movement and flow).

2.4 Range

Definition: point at which demand falls to 0 because of travel costs (due to distance decay effect)

2.5 Diffusion

Definition: the way that things spread through space and over time

relocation diffusion e.g. immigration

contagious diffusion phenomenon spread due to the proximity of carriers or agents of change

- **Example:** the spread of idea, disease
- similar to hierarchical

hierarchical diffusion diffusion process that is hierarchical

- e.g. big cities ⇒ small cities

2.6 Demand and Distance: the spatial demand curve

The Demand Curve Quantity purchased vs. Price

Cost and Distance Distance vs. Transportation Cost

Spatial Price Curve Distance vs. Price to household

Spatial Demand Curve Distance vs. Quantity purchased per household

2.7 Accessibility and the Value of Location: The Bid-Rent Model (Trade-off Model)

- Importance: accessibility > land value > land use
- spatial sorting of land uses according to ability to pay & costs
- logic of these land and economic models: different sites have different accessibility and thus vary in value. As land users vary in the level of economic return, they will vary in their ability to pay for the sites.
- The most able to gain economically occupy the most accessible (valuable) sites

2.8 The Hotelling Model

- competitive: each vendor pushes their location toward the line of indifference (worst case scenario for everyone)
 - consumers : average distance that need to travel is the highest
 - for vendors: ↓ number of customers
 - more likely to get into price war
- cooperation: approx. half market each
 - no price war
 - ↓ average distance
 - may exist other complications (one is closer to beach)

2.9 Bounding of Spatial Market

Type of Boundaries

1. institutional/political
2. range/distance decay: beyond which the market will go somewhere else
3. competitive
4. natural: **Example:** Don Valley

Example: Toronto's most important boundary is the competitive one. (Analyze why!)

2.10 Unifying/Simplifying Assumptions (Role of Models)

Models an idealized representation of the real world in order to demonstrate some of its properties

- All models have unifying or simplifying assumptions that attempt to isolate the key factors thought to be relevant to the analysis and remove the many complexities of the real world thought not to be relevant in the application of the model.
- unrealistic assumptions can be the source of weaknesses in models.

3 Trade Area Delimitation Techniques

3.1 Normative Approaches

Asks the question of “what should be done given certain assumptions”

Thiessen Polygon

1. Technique
2. Assumptions
 - (a) Distance to the retail opportunity is the factor that determines where the customer will shop, due to disincentive nature to distance
 - (b) Relative proximity is the **ONLY** variable that differentiates the stores
 - (c) The stores are **IDENTICAL** in all aspects of supply: goods, prices, service, etc
 - (d) Retail centers service spatial monopoly trade areas, i.e. markets do not overlap
 - (e) All areas are serviced
 - (f) Consumers are fully informed, fully rational, decision makers; consumers are economic operators; they know all the locations and all the distances to them
 - (g) Uniform travel plain on an uninterrupted travel surface, i.e. it is equally easy to travel in any direction
3. Applications
 - theoretical amount of market for each store using Census Tract ; quite accurate compared to actual market
 - partial Census Tract
 - Centroid Method
 - Proportional Grid Method
 - to explore changes in the system such as good locations for new outlets
 - theoretically best sites for new outlets; at least on the lines of indifference; at best at the vertices of boundary lines; poorly serviced; least likely to “cannibalize” their neighbours
 - finding gaps in the map; opening new stores; closing stores
 - “what if” scenarios

Converse Breakpoint

1. Technique

- In addition to distance, use the variable attractiveness to delimit trade area

$$D_y = \frac{D_{XY}}{1 + \sqrt{\frac{A_X}{A_Y}}}$$

2. Assumptions

- Same as Thiessen polygon
- DOES NOT assume all centers are equal in attractiveness
- Additional assumption: some measure of size (e.g. number of stores, number of employees, etc) is an adequate measure of attractiveness of stores

Huff Model

What is the probability that the consumers in this area will shop at one of a number of stores based on the relative utility of stores?

$$P_{ij} = \frac{u_{ij}}{\sum u_{ij}}$$

$$P_{ij} = \frac{\frac{S_j}{d_{ij}^b}}{\sum_j \frac{S_j}{d_{ij}^b}}$$

1. Technique

2. Assumptions

- all stores in the area are possible destinations; i.e., **overlapping** markets
- consumers can be assigned to centers based on calculated probabilities
- the variables are still limited to distance and size

3. Application

- evaluate what the present market should be for stores
- much more powerful use of the model is to evaluate proposed changes; both the private and public sectors would have much interest in the impact of such changes

Critique of normative approaches

- all normative models are theoretical in nature
- if our assumptions are weak, then our model is flawed
- if assumptions are met, then models are robust and effective
- cheap and easy to apply
- sometimes, the real world scenario does not yet exist so we have little choice but to use predictive normative models

3.2 Behavioral Approaches

Customer Spotting (Market Penetration) Techniques

Advantage Attempt to measure the actual performance (penetration) of store rather than hypothetical cases, retailers identify where the customers actually come from

Disadvantage labour intensive, expensive

Obtaining the data survey, ballot, contest, delivery addresses, credit card(best way, as credit information is also collected), air-miles

FSA Forward Sortation Areas

- designed to direct mail
- can pay post office to get data (collected from tax return)

Data Mining

- Look for patterns
- Wal-mart is the leader in this field

Note: the best way to collect data is to use credit card issued by the company (collect personal credit information)

Market Penetration By using the customer spotting data in conjunction with some measure of potential customers for areas around the store, it is possible to estimate the level of penetration into each neighborhood.

- Combine with Census Tract
- identify the primary (first 60%) and secondary market (next 25%)

3.3 Relevant Concepts

- Distance decay, friction of distance
- Disincentive nature of distance
- Location and Competition (Hotelling)
- Utility (distance, size, attraction)
- Unifying/Simplifying assumptions

4 Site Selection Techniques

4.1 Seven Methods

Top \Rightarrow Down : Qualitative \Rightarrow Quantitative

1. Rule of Thumb: intuition, experience, observation, “gut feeling”
2. Descriptive inventories: checklist of key factors, which site has the most?
3. Ranking: rank sites on the basis of key factors thought to be most important
4. Ratios: sales/population, sales/store, etc.
5. Analogues: Duplication of existing well performing sites (follow the leader)
6. Location Allocation: best set of sites to service existing population
 - more likely found in public services, like hospitals
7. Regressive Models
 - Only include if statistics verified.
 - Verification of relevance of factors
 - Simple Regression
 - Multiple Regression

4.2 Concept of Regression

Simple Regression the association between two variables (one dependent and one independent)

Regression coefficient intuitive and counter-intuitive variables
positive and negative association

4.3 Site Evaluation Using Multiple Regression

Dependent Variable Definition: This variable changes as other variable changes

Independent Variable Definition: This variable does not change as other variable changes

Multiple Regression Definition: the relationship between a dependent variable (\$ sales) and several site and situational variables (independent variables: e.g. population, household)

How to Apply Regression Analysis

1. For a set of existing sites, need data on sales and potential independent variables
2. Isolated key factors, the individual association of independent variables
3. Develop/Calibrate the regression model

Example: central city sites: car accessibility is negative related to sales (counter intuitive) Because

- More competitors
- Parking lot = absence of apartment buildings: less population

5 The Geography of Demand: The Market

Definition: A Market is a set of consumers. How do we usefully describe a market?

1. Spatially: (natural, competitive boundaries) Bounding a spatial market
 - especially competitive boundary, our techniques were delimiting these
2. Population size (Ch. 9): numbers, distribution & density, population change
 - 27 CMA's have 64% of population; 4 large urban regions have more than 50% (extended golden horseshoe, Montreal region, BC's lower mainland, Calgary–Edmonton corridor)
 - CMA = functional region
 - top 25 CMA have 64% population and 69% income \Rightarrow concentration of income
 - population density: distance decay; more people at CBD (core) and more accessible suburban places
 - Two ways population can change: 1) net migration, 2) natural death and birth
$$P2 = P1 + (B - D) + (I - E)$$
3. Socio-economic status (Ch. 5,6,7): income, education, occupation
 - **concentric sectorial, multiple nuclei** (many downtowns)
 - reinforced by transportation
 - GTA still downtown concentrated (in terms of income)
 - \uparrow education, \uparrow income
 - focus on middle to high income groups
4. Demographic: age, sex, life-cycle, population pyramids (by age and sex)
 - \uparrow complexity of households
 - Victoria is female biased because there is government there (more female work in government), and many elderly (women live longer in general)
 - To predict change in demographic (age/sex) composition:
 - (a) age specific death rates by sex
 - (b) age specific in-migration by sex (in 20s, after finish their degree)
 - (c) age specific out-migration by sex (in 20s, after finish their degree)
 - (d) birth into the pyramid/population by sex (population at risk in Canada)
 - Life cycle: as we grow older, our demand is different
5. Ethnicity: ethnic origins, language, religion, birthplace
 - **Example:** many Jewish immigrants directly go to suburban because
 - (a) they can afford that
 - (b) established community there
6. Life style: combinations of above. **Example:** Yuppies
 - identify subgroups
 - target marketing
7. Consumer Behavior

Important Source of Market Data: census, FSA's, household expenditure, customers spotting

6 The Geography of Supply: Retail

6.1 The Major Actors

- independent stores: most retailers are independent
- retail chains/franchises: essentially identical
- shopping center developers
 - enclosed, single entity
 - most stores are retail chain
- investors: banks, insurance companies, etc.
- government agencies
 - Taxing: constraint on consumption
- planners and municipal politicians

6.2 A Typology of Urban Services

Typologies of Retail

A simple four-part classification

1. strip (ribbon) retail: traditional retail, for neighborhood, usually just on the street
2. planned shopping centers: most in suburban, accessible, visible
 - Eaton: an atypical mall: developed vertically
3. ancillary retail: retail in facilities, taking advantage of captive market
 - Example: underground PATH system
4. big box and power centers (nodes): clustered, highly accessible, usually near highway
 - Definition: Power Center: an unenclosed shopping centre that usually contains three or more big box retailers and various smaller retailers with a common parking area shared among all the retailers.
 - Definition: Node, Power Node: ≥ 2 power centers at an intersection

Note: All above are physical entities — also online and other virtual modes

- Example: Maps of GTA: retail strips dominate by independent stores, easy to manage, while shopping centers are around major highway
- Example: Shopping malls
- Example: Super-regional shopping center
- Example: Pedestrian flow: store at the corner get the most traffic
- Example: West Edmonton mall
- Example: Bigbox: difficult to shop from one to the next (need a car)

Intra-Urban Retail Hierarchies(Structure)

convenience store ⇒ Regional shopping malls (more on notes)

	Bottom	Top
Number of stores	large	small
Size of stores	small	large
Order of goods sold	low	high
Spacing of the stores and centers	closely	widely
Frequency of visits by consumers	frequently	infrequently
Distance traveled by consumers	short	long

Note: in the exam answer, we should put it into a paragraph, rather than a table

Diversity of Characteristics

1. location (downtown /suburbans)
2. morphology (e.g. strips, centers)
3. ownership (retail chain vs. independent stores)
4. planned/unplanned
5. function (specialized/general)
6. market focus (e.g. upscale, ethnic)

6.3 Retail Concentration

Many actors but few concentrations (concentrations on retailer, location)

- Many people/organization involve in retail
- Very few actually command most of the market
- More international retail
- A few major urban regions have most sales (4 urban regions in Canada: Toronto, Montreal, Vancouver, and Calgary)
- A few major cities have most retail chain headquarters (Canada: Toronto and Montreal)
- A few locations in cities command most sales
- There are many retailers but relatively few of them command most sales (Canadian experience)
- Most retailers are independent, but most sales are from retail chains
- Retail chains are numerous but a relative small number of large chains command most sales

Locational Strategies

- international
- regional
- local

In Canada, still a strong regional flavor

- most suburban close to US border
- very focused/concentrated at southern part of Canada
- regionally distinct (Quebec)
- logistically, BC very far from Maritimes, distributing more difficult
- North-South extension makes more sense
- Calgary & BC separated by travel time because of Rockies

Internationalization

- growth of retail Trans-Natioanl Cooperation (TNC)
- IKEA, Wal-mart, Tesco (UK), Carrefour(France)
- acquisitions, take-over
- ↑ looking for market abroad

Fewer Larger Retailers Expansion:

- organic: contagious diffusion, hierarchical expansion
 - **Example:** hierarchical: go to big places first, then spread from that place (contagious diffusion)
- mergers, acquisitions and take-overs: gain instant market presence

Fewer Larger Stores

- ↑ store size
- ↓ store number
- require the mobility of consumers(as they are in suburban, difficult to access by public transportation)

Fewer Larger Warehouses

- logistic/infrastructure
- mobility, JIT (Just In Time)
- to serve a large number of stores: efficiency
- sorting facility — cross warehousing: one truck bring all goods needed to one store (efficiency)

6.4 Retail Chains/Franchises

Associate with shopping center or power nodes

Advantage of Retail Chains

1. General advantages of scale economic
 - most activities are cheaper at larger scale
 - cost per unit is low (more specifically below)
2. Avoid restrictions of single/few markets
 - reduce risk by spreading risks between countries, cities or neighborhood (trade areas)
 - need global recessions for all markets store to be in trouble
3. Aspect of overhead can be shared
 - e.g. administration, accounting, locational analysis, training, technology
 - can afford to have a department for each, or purchase expertise
4. New technologies
 - EPOs (Electronic Purchase Order), JIT strategies
5. Leverage and purchasing power is high
 - negotiate with suppliers and producers
 - much shelf space
 - their own brands
 - producers > wholesalers > retailers
 - in recent years, gradually miss out wholesalers/warehouse
 - go directly to the supplier
 - we want our brand name on the label
6. Experience: success and failure
 - what works
 - test products lives in sub-set of stores
 - test at distant boring stores
 - if works, work anywhere
 - otherwise, won't risk it
7. Maximum of Advertising/Marketing Exposure
 - high advertising budget
 - high profile
 - different media
 - generative (generate traffic in the mall)
 - universal application (advertisement not wasted, because people will be attracted to store or brand)
8. Wait-out strategy
 - system wide decision making
 - retail chains can go in somewhere don't make money at first
 - because it is big, it can support the loss and make money eventually
9. Very familiar and predictable
 - associated with shopping centers
 - same taste, services, etc.

- same design
- once captured customers at one location, good for all locations
- potential weakness: opportunity for independent store
 - short in flexibility
 - independent stores are more sensitive to local area, know the people, provide true services

Disadvantage

See the No.9 of advantages, it is also the key disadvantage for retail chains and is an opportunity for independent stores

Mega-chain Solution

- chains of chains
- retail chains, power centers, shopping malls: very predictable environment

6.5 Re-emergence of non-store retailing

E-commerce **Definition:** commercial activities that is conducted through electronic or virtual form/plaforms

- about 0.8% of the market share
- catalogue shopping
- shopping at home
- e-commerce & e-retailing

7 Market Demand Changes and Retail Supply Responses

1. Population Size

- $P2 = P1 + (B - D) + (I - E)$
- ↓ growth rate
- increase for large cities

2. Population distribution

- focus on large places (small number of large places: strong theme)
- cultural, physical geography

3. income : increasing

- disposable income increasing to spend on things we don't need
- ↓ fuel, food, tobacco, alcohol, etc. (life-style)
- increasing spending on services & travel

4. household size

- only Ireland increases, all other countries decreased (life style)
- condo development: for small family

- large number of small households
 - all need dishwashers as can afford it
5. age
 - older, longer, fitter
 - baby boomers get older
 - substantial market
 - a grey market, growing substantially
 6. female participation: ↑
 - in labor forces
 - changing attitude toward family
 - no children or small number of children
 - have their own money
 - significant focus on typical shopper (middle-age women)
 7. diversity: ↑
 - culture/ethnicity
 - Maritime: British
 - Quebec: French
 8. new life style consumer groups: geo-demographic
 - Green: environmental friendly
 - Gay
 - Grey: elderly people
 9. mobility: significant ↑
 - automobile ownership ↑
 - population more mobile, travel more distances
 - **Example:** Mega-plexes, small number of large destinations, require people to be mobile

8 Non-Store Retailing

The rise of e-commerce and the end of geography? NO!

1. Catalogue shopping
 - cost of fulfillment
 - get the products right away
 - catalogue: supplier pay cost
 - delivery cost
2. shopping at home
3. TV shopping channels
 - A little bit of interaction
4. E-retailing

8.1 E-retailing

1. immense potential: 68% household have internet access (2004)
2. also disproportionately high income
3. highly educated and youthful
4. save on physical infrastructure of stores, etc.
5. more penetration in urban than rural, ironically
6. But
 - of e-commerce, 75% is B2B
 - only 0.8% of total retail sales (2004) is via internet, but fast growing (most people use it as a research tool)

Problems

1. lack of fulfillment (expensive for suppliers)
2. security (perception)
3. types of goods (standardized) books, DVDs
4. types of services (**Example:** travel, leisure)
5. pure play vs. click and mortar
6. information vs. purchase
7. not universal access : digital divide
8. lack of instant gratification
9. tactile (feel/touch) experience
10. sociability? a social and cultural experience

Corporate Strategies

A complementary rather than competing channel

The end of geography?

No sense. It is a geography of its own:

- internet access
- links places by telecommunicated computer networks and computerized transportation systems
- some are worse off, **Example:** Africa for internet